STUDENT PERCEPTIONS OF COURSE ENGAGEMENT: A COMPARISON OF ONLINE AND TRADITIONAL COURSES

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Abstract: As community colleges continue to see growth and coursework shifts to an online delivery mode, the need to examine student perceptions of course engagement in online courses grows as well. This study examined student perceptions of course level engagement by surveying students at two small, Mid-western community colleges. A modified version of the Student Course Engagement Questionnaire (SCEQ) was used to survey community college students enrolled in online and traditional courses. The selected courses are all part of the state mandated general education core, required for obtaining an associate's degree or transferring to a four-year institution. Additional demographic data including gender, age and employment status was gathered. Findings indicate that the community college students were more engaged in traditional delivery courses. No difference in engagement score was found across course discipline area. No difference was found between engagement levels across gender, age or the hours worked per week. Additional studies in this area are needed due to the small sample size.

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CHAPTER I

INTRODUCTION TO STUDY

The world is changing at a rapid rate. Globalization and the increased speed at which business is conducted have led to an increasingly complex flow of information (Chartrand, Ishikawa & Flander, 2013; Graham, 2014). Work situations change rapidly, causing employees to move into new roles that often have limited direction and require them to make good decisions quickly (Chartrand, Ishikawa & Flander, 2013). In order to make good decisions quickly employees must be able to think critically (Society for Human Resource Management, 2008). Chartrand, Ishikawa and Flander (2013) note that 70 percent of employees with a high school diploma are deficient in critical thinking skills.

In December of 2007, the Society for Human Resource Management (SHRM) conducted a survey of human resource professionals and employees. The surveyed groups identified critical thinking skills and adaptability as the two most important skills and behaviors for employees. Similarly, the Association of American Colleges & Universities (AACU, 2013) conducted a national survey to determine the skills that business and nonprofit leaders are looking for in potential employees. Results show that 93 percent of the respondents believe that critical thinking, and the ability to solve complex problems, is more important than undergraduate major. In fact, 95 percent of those surveyed indicate that they look for graduates with skills that will add to the company's innovation in the workplace as their first choice.

Higher education is at the forefront of developing these skills. College students show significant gains in critical thinking skills each year they are in college. The Council for Aid to Education (CAE) found that students from 158 four-year institutions increased their average score on the Collegiate Learning Assessment by three quarters of a standard deviation from their freshman year through their senior year of college (CAE, 2013).

Higher education can provide students with the skills they need to be critical thinkers in the workplace. Only nine percent of college graduates from four-year institutions were found to be deficient in critical thinking skills (Chartrand, Ishikawa & Flander, 2013). Yet the public is questioning whether or not a college degree is worth the time and money invested by students. In response, higher education has continuously modified course offerings to be more available to students and to be more affordable. Online courses time flexibility and community colleges offer greater affordability.

Online course enrollment growth rates consistently outpace the general student growth rate (Allen & Seaman, 2013; Straumsheim, 2014). In the fall of 2011, 32 percent of American college students, 6.7 million people, were in enrolled in at least one online course (Allen & Seaman, 2013). This figure rose to 33.5 percent of all students in 2014 (Allen & Seaman, 2014). Online course enrollment in United States colleges grew from 1.6 million students in 2002 to 6.7 million in 2012 (Allen & Seaman, 2013). By 2009, 96 percent of public two-year colleges and 86 percent of public four-year colleges were offering online courses and nearly 60 percent of students were enrolled in at least one online course (Allen & Seaman, 2008; Rabe-Hemp, Woolen, & Humiston, 2009; Shea & Bidjerano, 2009).

By 2012, enrollment rates in online courses had grown more quickly than the total higher education student population, with online enrollments experiencing a 16.7 percent increase, as compared to a 2.5 percent increase in higher education overall (Allen & Seamen, 2014). If this growth rate continues, the majority of college students will take at least one online course (Rabe-Hemp, Woolen, & Humiston, 2009). The fastest area of online enrollment is in two-year associate degree colleges (Cdeja, 2010). More than one-half of all the growth in online courses over the past five years has been in two-year schools, with more than one-half of all enrolled online students being community college students (Cdeja, 2010; Moloney & Oakley, 2010).

The surge in online course offerings and enrollment has led to the development of new research areas. Although online courses have been in existence for over a decade, research on the effectiveness of online instruction is still in its infancy (Richardson & Newby, 2006) with little research examining how students engage with their online courses. Making sure that students are engaged in these courses matters. As universities have continued to expand their online offerings, research in the digital arena has become increasingly focused on online course interactions with student attitudes and overall student satisfaction with the medium (Robinson & Choo, 2008). Robinson and Choo (2008) point to student engagement as a means of evaluating student learning in online courses. Tinto (2000) notes that student engagement is the best predictor of retention. Graduating college makes a difference in the development of critical thinking skills (Chartrand, Ishikawa & Flander, 2013). The quality of student learning needs to be explored to determine if the continued surge in growth truly benefits learners in their personal and professional lives (Robinson & Choo, 2008).

Background of Study

Student Engagement

Student engagement is complex construct comprised of a variety of factors, some academic and some nonacademic, that impact student interactions with the university, the professor, the course, and learning (Chickering & Gamson, 1987; Coates, 2007; Garrett, 2011; Yen & Abdous, 2011). Student engagement has been considered to be one of the best indicators of learning since it examines student behaviors along with institutional behaviors (Carini, Kuh, & Klein, 2006; Marti, 2009).

Student engagement is often defined as the quality of effort students devote to educationally purposeful activities, such as student effort, student involvement, and active learning, that directly contribute to educational outcomes (Garrett, 2011; Harper & Quaye, 2009; Marti, 2009; Nauffal, 2010; Wang & Kang, 2006; Yen & Abdous, 2011). George Kuh's definition, the most widely accepted definition, includes the role the institution plays in engagement. He defines student engagement as the time and energy students invest in educationally purposeful activities and the effort institutions devote to using effective educational practices (Kuh, Kinzie, Buckley, Bridges & Hayek, 2007).

Studies have demonstrated that students who are engaged during college develop habits that increase their likelihood of being lifelong learners and their interest in continued personal development, and are more likely to be satisfied, stay in college, and graduate than students who are not engaged (Angell, 2009; Carini, Kuh, & Klein, 2006). Additionally, engagement is the single most significant predictor of persistence (Tinto, 2000). Many students leave college

without a completing a degree because they are disconnected from their peers, their professors and from institutional administrators (Tinto, 2000).

Many of the articles and studies about engagement offer broad definitions of the term. This may be due to its multi-dimensional nature. Garrett (2011) suggests that it might be easier to identify the signs of engagement than to provide an overly simplistic definition of the term. The behaviors or actions that have been linked to student engagement include: involvement in class, being involved in learning activities, asking questions, responding to classmates comments, marking in texts, debating, relating out-of-class problems and readings to class, developing response papers, posting discussion thread questions or comments to the instructor or fellow classmates, emailing the instructor or classmates, and probing deeply into a research problem (Garrett, 2011).

One of the factors that separates student engagement from other cognitive, content-based competencies is that student engagement includes psychosocial dimensions relevant to learning including the amount of time, the type of investment, and the intensity of investment that students make in their educational experiences (Kuh, 2011; Mandernach, Dailey-Hebert, & Donnelli-Sallee, 2011). Student engagement studies initially focused on time-on-task behaviors. However, student engagement has come to encompass student willingness to participate in scholastic activities. Instructors, researchers, and institutions interested in assessing student engagement should use measures that assess the cognitive, affective, and behavioral aspects of engagement (Chapman, 2003; Schreiner & Louis, 2011; Wang & Kang, 2006).

Most of the student engagement research that has been conducted has focused on student engagement as it relates to an institution's practices and programs. This *macro* view of

engagement has featured large-scale applications and adaptations of the National Survey of Student Engagement (NSSE) and the Community College Survey of Student Engagement (CCSSE). However, the studies that use the NSSE and the CCSSE reveal very little about the course-level engagement that actually occurs in the classroom (Garrett, 2011; Handelsman, Briggs, Sullivan, & Towler, 2005). This has led researchers to call for the examination of course engagement. Course engagement differs from institutional view of student engagement because it centers on the practices that lead to student learning within a course instead of the institutional practices tied to retention and learning. Course engagement is focused on the classroom practices that cause students to be engaged in a class. Very few studies have focused on engagement at the course level, making it difficult to determine what classroom practices have the largest impact on student course engagement. This is particularly apparent in the arena of online education. There is a large amount of research that has been conducted at the institutional level examining the engagement of students in online courses and comparing their engagement levels to those in traditional courses, partially due to the rise of research related to the NSSE. The NSSE gathers empirical data about institutional level measures of student engagement at four-year institutions. Far less research on online learning has been conducted using the CCCSE, with data gathered at community colleges. Both sets of measures focus on factors that institutions impact for data. Limited research has been conducted at the course level to determine if there is a significant difference between course engagement levels for online and traditional classes.

Engagement in Online Education

It is important to distinguish between engagement in traditional and online settings. Research in the area of engagement in online forums includes several forms of computer

applications including students using Web-based work or integrating technology into the course curriculum (Chickering & Erhmann, 1996; Palloff & Pratt, 2001; Robinson & Choo, 2008; Thurmond, Wambach, & Connors, 2002; Weiss, Knowlton, & Speck, 2000). A few studies (Laird & Kuh, 2005; Robinson & Choo, 2008) have focused on online courses and the findings of these studies indicate a link between institutional level engagement and online learning. For example, Robinson and Choo (2008) noted that those enrolled in online courses displayed higher levels of institutional engagement than either freshman or senior students in traditional classroom settings. Laird and Kuh (2005) found strong positive relationships between academic challenge, student-faculty interaction, and active and collaborative learning in online classrooms. However, these studies have focused only on the factors that comprise institutional engagement and have not examined course engagement differences between online and traditional courses.

Engagement across Institutional Type

Community college enrollment continues to record the highest gains across all types of college enrollment. Community colleges enroll 45 percent of all students and nearly two-thirds of all nontraditional students (Snyder & Dillow, 2012). Community colleges have also shown the greatest growth in online learning. Community colleges continue to embrace online offerings with 97 percent of community colleges offering courses online (Fain, 2013). In fact, while overall enrollment in community colleges has fallen by 2.3 percent over the past year, online courses continue to see growth (Smith, 2015).

Online offerings at community colleges are rising for a number of reasons. Reisetter and Boris (2004) note that increasing numbers of students enter higher education programs with work and family obligations that they attempt to balance as they work toward their educational goals.

Online classes are often filled with students who have limited access to traditional style courses due to these responsibilities. Those choosing online courses also tend to be self-directed, describing themselves as preferring to choose how and when they work (Reisetter & Boris, 2004). Community college students in online courses have a lower retention and course completion rate than their traditional course peers (CCRC, 2014; Straumsheim, 2014).

Even though community colleges show the greatest area of enrollment growth and online education growth, few studies address any type of engagement, student engagement or course engagement, in the traditional setting or in the electronic classroom, at community colleges. Marti (2009) conducted a meta-analysis and found that only 8 percent of the 2,300 articles published through 2008 about student engagement specifically mentioned community colleges. A closer examination of these studies indicates that the majority of the community college studies about engagement have focused on institutional engagement or on small samples of special populations. Marti has called for additional research to be conducted about types of engagement in community colleges due to the unique characteristics of two-year institutions.

Student Success in OnlineCourses

Another important factor in the study of course engagement in online classes is student success and retention. The Community College Research Center (CCRC, 2014) reports that the failure and withdrawal rates for community college students in online introductory math and English course were substantially higher than those for the same courses delivered traditionally. The organization noted that students taking one or more online classes their first semester were four to five percent less likely to return to the community college the following semester. This was especially true for male students, students who entered college with a lower grade point

average and African American students. In fact, the lowered retention rate for these students was found to exist in all subject areas. Additional studies have similar results, including lower levels of achievement and retention (Barshay, 2015; Fain, 2013).

Problem Statement and Research Question

Problem Statement

Online course offerings at universities and college are growing at a rapid rate that is expected to continue. Nearly 60 percent of students across all institutions were enrolled in an online course in the fall of 2009. Yet many professionals in the field of higher education continue to express doubts about student engagement in online settings. Student engagement levels are positively correlated with the retention and success rates of students in two-year and four-year institutions (Goncalves & Trunk, 2014). Most of the studies focusing on engagement have been conducted at traditional, four-year institutions, even though the greatest growth market for online coursework is the community college. Even though online course enrollment at community colleges continues to surge, students in online courses in community colleges have a lower retention and course completion rate when compared to their peers in traditional courses (CCRC, 2014; Straumsheim, 2014). These factors paint a unique picture of student engagement in online course at community colleges. The number of courses continues to grow even though students are less likely to remain in the course or pass it. Examining the engagement levels of students in these courses could shed light on the reason that students have a reduced success rate in the online forum. The reliance on examining institutional engagement factors, rather than course engagement factors may contribute to the lack of knowledge regarding community college success in online courses. Examining course engagement allows for the exploration of specific

interactions that occur in the classroom, whether physical or virtual, to determine how students learn best.

This study will address whether community college students enrolled in online courses perceive themselves to be as engaged in courses as community college students enrolled in traditional courses. Cdeja (2010) and Moloney and Oakley (2010) note that more than one-half of all the growth in online courses over the past five years has been in two-year schools, and more than one-half of all enrolled online students are community college students. Two-year institutions are offering the greatest numbers of online courses but if community college students are not engaged in the online courses they take, are they learning? Addressing the problem of student course-level engagement in online courses allows for the examination of the factors that impact community college retention since student engagement is the best indicator of retention (Tinto, 2000). Additionally, evaluating student responses will allow those developing online courses for community college students to determine if there are any facets of student engagement that can be improved upon via course design or content delivery.

Purpose of the Study

The study examined community college student perceptions of course engagement between students enrolled in traditional delivery courses and those enrolled in online courses.

Research Questions

The study examined three research questions:

1. Do community college students enrolled in online courses perceive different levels of course engagement than those enrolled in traditional courses?

2. Do community college students enrolled in online courses perceive different levels of course engagement across course disciplines than students enrolled in traditional courses?

3. Do course engagement levels for community college students enrolled in online and traditional courses vary based on the age, gender and employment status of the students?

Research Hypotheses

1. Students enrolled in online courses will score significantly higher on measures of course engagement.

2. Student course engagement levels will vary according to course discipline.

3. Student course engagement levels will vary by demographic factors.

The research questions, data sources and analysis methods are detailed in Table 1, shown below.

Table 1
Research Questions, Sources of Data and Data Analyses

Research Question	Source of Data	Data Analysis
Do community college students enrolled in online courses perceive different levels of course engagement than those enrolled in traditional courses?	Demographic questions about online and traditional course enrollment; Likert-like scale survey questions.	Analyzed with descriptive statistics and paired-sample t-tests.
Do community college students enrolled in online course perceive different levels of course engagement across course discipline than students enrolled in traditional courses?	Demographic questions about the course discipline area; Likert-like scale survey questions.	Analyzed with descriptive statistics and one-way ANOVAs
Do course engagement levels for community college students enrolled in online and traditional courses vary based on the age, gender and employment status of students?	Demographic questions about age, gender and employment status; Likert-like scale survey questions.	Analyzed with descriptive statistics and one-way ANOVAs

Theoretical Framework

The previous sections of this chapter have provided information regarding why student perceptions of course engagement in online and traditional courses should be explored. This section will provide information about the theoretical perspectives that led to development of the concept. The theory of student engagement came to being due to the work of many researchers including Tyler, Pace, Astin, Tinto, Chickering and Gamson, Pascarella, and Kuh (Kuh, 2009; Wolf-Wendel, Ward, & Kinzie, 2009). This section will explore how theories postulated by Astin and Kuh have influence and furthered the study of engagement.

Astin's Theory of Student Involvement

Astin developed his Theory of Student Involvement (1984) as he was organizing what he knew about student retention through his research in the field of student development. He was influenced by Pace's work with the College Student Experiences Questionnaire in the 1970s, designing to measure student quality of effort (Kuh, 2009). Astin had been conducting a longitudinal study about college dropouts when he developed the theory (Astin, 1999). He found that almost every significant effect in his study could be rationalized by looking at involvement, with the factors that contributed the most to a student remaining in college being linked to involvement and those that led to a student dropping out being linked to a lack of involvement (Astin, 1999).

In his theory, involvement is linked to student behaviors and includes "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1999, p. 518). He postulates that being on task and active is needed for learning to occur. In this model, the more a student expends energy the richer the collegiate experience.

His model highlights five main areas in involvement. First, involvement is the physical and psychological energy expended. Second, student involvement happens along a continuum. Different students will show different degrees of involvement in the same situation. Additionally, the involvement of a single student differs according to the situation. Third, there are qualitative and quantitative elements to involvement. Fourth, the amount of learning and personal development arising from an educational program is directly related to the quality and quantity of involvement displayed by the student. Lastly, the effective educational policies and practices are

tied to potential increases in student involvement that can be brought about by the policy or practice.

In Astin's Input-Environment-Output Model (Astin, 1991), he controlled for student characteristics in an attempt to determine the impact that on-campus academic and social activities had on a number of outcomes. Activities that are part of involvement theory include: working on campus, engaging with peers, club membership and interaction with faculty.

Involvement focuses on the individual student, rather than the institution, and is measured by examining the amount of time students dedicate to a variety of tasks that are viewed as part of academic involvement or extracurricular involvement. Research in this area indicates that academic involvement, involving tasks such as studying, doing homework, asking questions in class and completing homework, has the greatest impact.

Astin's work led Chickering and Gamson (1987) to develop a set of principles, outlined in the book, The Seven Principles of Good Practice in Undergraduate Education, that are hallmarks of practices institutions can use to retain students. The book led researchers to explore how to identify student behaviors linked with learning and led to George Kuh's work in engagement (Kuh, Pace, & Vesper, 1997).

Kuh and Student Engagement

A key figure in the development of engagement is Kuh (Wolf-Wendel, Ward, & Kinzie, 2009). Kuh developed a framework for student engagement through the development of the NSSE (Bryson & Hardy, 2010). In the 1990s, the Pew Charitable Trusts director brought together experts, including Pace, Astin, Chickering, and Kuh, in the higher education in an

attempt to find ways to determine college quality based on student learning and effective educational practices (Kuh, 2009). The meetings led to the idea that the development of a statistically sound student survey about behaviors and college expectations would allow researchers to have an authentic way of determining college effectiveness (Kuh, 2009). Through a series of steps, this led to the development of the NSSE, an instrument designed to determine the degree to which students are involved in educationally purposeful activities and how this impacts what students gain from college (Wolf-Wendel, Ward, & Kinzie, 2009). The NSSE provides a means for examining the quality of colleges in a way not tied to reputation and resource-based ratings (Pike & Kuh, 2005).

Kuh (2001) has indicated that engagement was developed as an extension of involvement theory. Kuh's view of engagement moves beyond a student's interaction with the environment. As Harper and Quaye (2008) highlight, a student can be involved in an organization by being present and on time for meetings and still not be engaged. They cite Kuh's work tying interaction to action, purpose and collaboration as keys to moving toward engagement and deep learning. An additional distinction between engagement and involvement is that engagement highlights the need for dual responsibility with the institution and the student playing roles (Harper & Quaye, 2008). His theory works to more explicitly make the connection between student behaviors and educational practices (Kuh, 2001). His framework contains five benchmarks: level of academic challenge, enriching educational experiences, active and collaborative learning, supportive campus environment, and student-faculty interaction (Bryson & Hardy, 2010). The benchmarks are described in the following paragraphs.

The academic challenge construct is described as being comprised of behaviors such as the amount of academic work performed by students; the number of hours each week a student spends preparing for class; and the number of assigned readings, along with the length of the readings, students complete. Additional behaviors such as the number of papers, length of papers, and how often the student had to work hard in the course are part of this construct as are the use of higher order thinking skills including synthesizing new ideas, making judgments about the value of ideas, and applying theories and concepts in new ways.

Active and collaborative learning includes being involved in class discussions, making presentations, working with other students on projects (both inside of and outside of the class setting), tutoring, being involved in community-based projects, and discussing ideas from class with people not in the class. The researchers describe enriching educational experiences as using electronic mediums and having serious conversations with students of a different race, ethnicity, religious group, or political orientation. Additional enriching educational experiences include participating in a practicum, community service, or volunteer work, or being involved in foreign languages, study abroad programs, and co-curricular activities.

Student-faculty interaction entails communication between students and professors about grades and assignments, career plans, readings, doing research, and working on events other than coursework. The behaviors that comprise a supportive campus environment include the institution providing needed support, supplying needed mechanisms for student coping, and providing socialization support coupled with quality relationships with other students, faculty members, and institutional administrators.

Kuh's work in engagement has led to the hundreds of studies and has surveyed thousands of students nationwide. However, the data gathered and explored by the NSSE focuses on institutional level measures at four-year institutions. In order to examine community college students the Center for Community College Student Engagement (CCCSE) was developed.

The Center for Community College Student Engagement (CCCSE) was established in 2001 and works in partnership with the NSSSE to explore student engagement. The survey instruments developed by the CCCSE and the NSSE are similar in that they focus on educational practice and student perceptions of student behaviors that are connected to positive college outcomes (CCCSE, 2015). Both entities work to influence what is quality collegiate education. They share common funders with leaders serving on each other's boards. However, many differences also exist. Many of the questions posed to students at four-year institutions are not applicable to community college students resulting in such questions being removed or altered on the community college version of the survey. The survey instrument offered by the NSSE is optional for students but for community college students it is administered during class. Institutions participating in the CCCSE must publicly report their results, whereas reporting is optional for the NSSE survey data (CCCSE, 2015).

Significance of study

The rise in enrollment in online courses, especially at community colleges, coupled with the reduced retention rates and other issues described in this study make it clear that more research in this area needs to happen. However, the need to study engagement is related to a bigger issue. Why should we care about engagement at all? This question is one that calls to

mind the reason why colleges exist and it is a question that higher education is being asked (Chan, Brown, & Ludlow, 2014). What is the purpose of higher education?

There are conflicting views on this topic. In an examination of studies comparing student and institutional goals regarding higher education, Chan, Brown and Ludlow (2014) found that many students are interested in attending college for intrinsic reason such as self-growth while others attend for extrinsic factors such as preparing for a career. The duality of these goals reflects the two main approaches to the purpose of higher education as reported in educational literature: the public good and the private good.

Moore (2014) differentiates between the public and private purposes of higher education. In the realm of public good, some believe that colleges and universities need to prepare students for political roles (Cadwallader, 1982; Kezar, Chambers, & Burkhardt, 2005; Pasque, 2010a) while others emphasize the need to prepare a ready workforce as we move toward globalization (The National Leadership Council for Liberal Education & America's Promise, 2007). Private good, on the other hand, focuses on educating people who will then have greater economic power (Pasque, 2010a). Moore (2014) maintains that these two distinctions are not competing views but can work in harmony to create a model where citizens take responsibility for their quality of life.

Higher education has existed to create knowledge, to spread knowledge, to develop critical thinking skills and communicative skills, to challenge the status quo and to foster the ability to think logically (Chan, Brown & Ludlow, 2014). The aim of developing critical thinking and discourse skills serves the public and private good and meets the needs of the changing nature of the world.

It is understandable that students attend college to become gainfully employed. Many have considered obtaining a college degree as a stepping-stone to an improved life or a means of rising above circumstances. The concern, however, is that when a college education becomes a series of checklist items, we lose the ability to create an informed citizenry capable of critical thinking. Employers want the people they hire to have job skills, but they also need people who can think critically and communicate their thoughts. Student engagement is the key to this.

Overview of Methodology

This study used student reported survey data and demographic information to explore the research questions. It is descriptive in nature, allowing the relationship between variables to be explored. Data was collected using an online survey instrument and analyzed using quantitative methods and SPSS version 21.0. The study used a paired sample t-test to examine the significance of hypothesized relationships between student perceptions of course engagement in online courses and traditional courses. A paired samples t-test design was utilized because students enrolled in both online and traditional versions of the course took the survey. The additional research questions were explored through ANOVAs, designed to examine the relationships between student perceptions of course engagement as they varied between course disciplines, between age groups, between genders, and between differing employment statuses. The survey items for the traditional course portion of the survey are part of the Revised Student Course Engagement Questionnaire (SCEQ, Handelsman, et al., 2005). The SCEQ has well-established measures of internal reliability and validity, as reported in the instrumentation portion of this chapter. The survey items for the online course portion of the survey contain mainly the

same items as the traditional course survey, with a few items rewritten to be applicable to online settings.

The sample was drawn from two, small, rural Midwestern community colleges. One community college has an enrollment of 5,200 students while the other has an enrollment of nearly 3,000. The subjects were enrolled in online or classroom-based versions of nine courses, selected because the courses are offered in several online and traditional methods and are part of the Oklahoma State Regents for Higher Education general education requirements (Oklahoma State Regents for Higher Education, 2007). All subjects were offered the chance to take the survey online. In accordance with Dillman's (2009) tailored design method, reminders were periodically sent to maximize return rates. The return rate was 26 percent.

Definitions of Key Terms

The areas of higher education, student development, and engagement research have developed concepts and terminology that are unique to the field. Many of the terms in the area of these studies can be interpreted a number of ways or misunderstood when taken out of context. Terms with critical meanings within the context of this study are defined in this section.

Student Engagement

Mandernach et al. (2011) define student engagement as the amount of time students spend working on course materials, the frequency and quality of their course-related interactions with peers or faculty, and how actively students use course related resources. They note that most research on student engagement has focused on a generalized view of learning, examining factors ties to institutional level outcomes such as campus involvement and retention. For the purpose of

this study, student engagement will refer to student behaviors tied to institutional level outcomes such as satisfaction, campus involvement, and retention. An examination of each outcome will not be part of this study.

Course Engagement

Mandernach et al. (2011) define course engagement as a range of academic factors including personality, affective, motivational, and persistence factors. Course engagement includes student attitudes needed to extend learning beyond the confines of the classroom. For the purpose of this study course engagement will focus on what happens in and immediately surrounding course work, as suggested by Handlesman et al. (2005).

Traditional Class

For the purpose of this setting, a traditional course is defined as a classroom setting where 80 percent of the course delivery occurs in a classroom with students and instructors physically present. The traditional courses explored by this study meet this definition.

Online Class

Borrowing from the work of Sener (2009) an online course is one where 80 percent of the content and the interaction between students and instructors occur online. The online courses explored by this study meet this definition.

Limitations, Delimitations and Assumptions

There are several delimitations, limitations, and assumptions in this study. The first limitation is that student motivations for enrolling in community colleges can make it difficult to

compare students in classes at community college. For the purposes of this study, high school students enrolled in concurrent credit courses at the community college, with the goal of earning college credit at regional, baccalaureate granting institutions, were not included in the sample when statistical analyses are performed.

A delimitation of this study is that self-reported data, such as that generated by a survey, often fails to capture what is actually occurring. Subjects may intentionally or unintentionally misrepresent themselves by either presenting themselves in a more favorable manner or in a less favorable manner. An assumption of the study is that participant responded truthfully and accurately. If this assumption is incorrect the finding may have been affected in ways unknown to the researcher.

Allowing students enrolled in online and traditional courses to complete the survey creates another large limitation. In this study, more than half of the participants answered the survey for traditional and online courses. Their survey results could not be compared to the results of the participants who took the survey for either online or traditional courses. This limited the overall number of results that could be examined since comparing all of the results would have violated the assumption of homogeneity of variance for t-test and ANOVA designs (Lund Research Ltd, 2013)

A related limitation is that students answered the survey based on their overall experiences in online and traditional courses in the specific content areas. They were invited to participate in the survey because their institution identified them as being enrolled in one of the examined courses for the Spring 2015 semester but their answers may include courses they took prior to the Spring 2015 semester.

Another limitation is sample size. Only 508 students were enrolled in the online general education core courses at the two institutions. Having a reduced sample size makes it difficult to draw generalizations to a larger population.

A final limitation is that the sample was drawn from rural community colleges. The unique characteristics of rural community colleges may make it difficult to generalize the finding to urban community college settings.

Summary

In this chapter, the rise of online education and the limited amount of research that has been conducted on any type engagement in online forums, especially in the community college, is discussed to place community college student course engagement in online learning in a context for further exploration. Online education is an important part of college courses due to the phenomenal growth experienced in this area over the past decade. Community colleges provide a majority of the online courses, yet little of the research about student engagement in online courses is performed at this type of institution. The problem is stated, along with the research question and hypotheses that consider the relationship between student perception of engagement in online and traditional courses. A brief overview of the methodology used in the study is provided, along with definitions of key terms used throughout this study. Finally, the delimitations of the study are discussed, focusing on the potential data loss due to possible concurrent student representation in the sample.

CHAPTER II

REVIEW OF THE LITERATURE

In Chapter One, the growth of online education was introduced. Student engagement and course engagement were defined. Research about student engagement in online settings was introduced. The dearth of research about student engagement and course engagement in online learning environments at the community college level was explored. In this chapter, student and course level engagement will be explored. Empirical research entailing engagement across institutional types will be given. The trend of conducting engagement at the institutional level, rather than the classroom will be discussed. Engagement research in the online setting will be presented. The goal of this chapter is to equip the reader with a basic understanding of student engagement and the research about it in traditional and online settings, particularly in the community college.

Defining Student Engagement

The premise of student engagement is that students learn more about a subject when they study it, practice it, or get feedback on it (Carini, Kuh, & Klein, 2006; Thurmond, Wambach, Connors, & Frey, 2002). Student engagement is a broadly defined term. It refers to the extent to which students actively take part in meaningful educational experiences and activities (Marti, 2009). Additionally, engagement is thought of as a multidimensional construct with behavioral, affective, emotional, and interpersonal components with dimensions that may not be overt or observable, especially in the area of emotional engagement (Handelsman, et al., 2005).

Researchers describe engaged students as good learners and that effective teaching stimulates and sustains student engagement (Handelsman et al., 2005).

Many researchers cite Chickering and Gamson's book *The Seven Principles of Good Practice in Undergraduate Education* as introducing the concept of engagement. Following the publication of the seven principles researchers began to look for indicators that could be used to identify and examine student behaviors associated with learning. The researchers exploring these indicators focused on the relationship between student behaviors and institutional practices through the use of the NSSE (Kuh 2001).

According to Laird and Kuh (2005), the NSSE measures student participation in educational activities that are reflective of student engagement and are linked to learning. NSSE is administered annually, with 437 participating colleges and universities in 2003 including nearly 350,000 first-year students and senior-level students (Laird, & Kuh, 2005). NSSE is taken by both first year and senior year students in order to develop an idea of what student behaviors are associated with engagement over time (Kuh, 2001). The NSSE measures five areas of institutional engagement: level of academic challenge; active and collaborative learning; enriching educational experiences; student-faculty interaction; and supportive campus environment (Choo & Robinson, 2008; Laird & Kuh, 2005; Kuh, 2001).

The academic challenge construct is described as being comprised of student behaviors. The amount of academic work performed by students and the number of hours each week students spend preparing for classes are two behaviors that are examined. Student completion rates of the assigned readings in the course, along with the length of these readings, are examined as well. Additional behaviors such as the number of papers, length of papers, and how often the student had to work hard in the course are explored. The final component of the construct are the

use of higher order thinking skills including synthesizing new ideas, making judgments about the value of ideas, and applying theories and concepts in new ways.

Another NSSE construct is active and collaborative learning. This area includes measuring how involved students are in class discussions, making presentations, working with other students on projects (both inside of and outside of the class setting), tutoring, being involved in community-based projects, and discussing ideas from class with people not in the class.

The third NSSE construct is referred to as enriching educational experiences. Student involvement with others comprises a large part of this construct. Behaviors, such as using electronic mediums and having serious conversations with students of a different race, ethnicity, religious group, or political orientation, are explored by the survey. Additional enriching educational experiences include participating in a practicum, community service, or volunteer work, or being involved in foreign languages, study abroad programs, and co-curricular activities.

The next NSSE construct, student-faculty interaction, entails communication between students and professors about grades and assignments, career plans, readings, doing research, and working on events other than coursework.

The final NSSE construct explores the supportiveness of the campus environment. The behaviors that comprise this construct include the institution providing needed levels of student support and supplying needed mechanisms for student coping. Additional areas include providing socialization support. Institutional support of students building quality relationships with other students, faculty members, and institutional administrators completes this area.

The development of NSSE greatly increased student engagement's visibility. The data collected by NSSE has led to numerous research studies that have led to reforms that have had a positive influence on American higher (Schreiner & Louis, 2011). In fact, the NSSE has resulted

in 78 published studies exploring engagement by examining data gathered by the survey (NSSE, 2014). The focus of NSSE is to elevate the quality of the institution as a whole by focusing on student behaviors and their corresponding educational practices that allow the institution to function in a more streamlined manner and higher levels of retention (Schreiner & Louis, 2011). This is a worthwhile endeavor yet it fails to take into account the relationship between student engagement and the teaching that takes place within the classroom. Mandernach et al. (2011) call for research to be conducted from the course engagement perspective, noting that most of the research on engagement has focused on a generalized view, highlighting retention, campus involvement, and satisfaction. They believe that course engagement is a more specific term and includes a range of academic factors including personality, affective, motivational, and persistence factors. Course engagement extends beyond cognitive and skills objectives to include student attitudes needed to extend learning beyond the confines of the classroom. By examining course engagement factors, faculty members can assess non-cognitive competencies and skills.

Professors who encourage student contact in and out of the classroom setting increase student motivation, intellectual development, and student personal development (Sorcinelli, 1991). Professors who encourage student-faculty contact are described by students as being approachable, interested in students, easy to talk to, interested in student viewpoints, concerned about student programs, open to helping students, and interactive with students outside of class time.

Sorcinelli (1991) also found that practices that encourage cooperation are strongly linked to active learning. The key elements present in cooperation and active learning are not passive during exposure to a learning task. Prompt feedback, though diagnosis at the beginning of a class, frequent tests during a semester, or assessments throughout a college career, leads to advancements in student achievement and satisfaction. Academic learning time, the time in which a student is engaged with course materials or activities, is positively correlated with

student achievement. Setting high expectations is important and is positively correlated with student ratings, student attendance, and student sense of personal responsibility.

This section defined the key components of course engagement. The fact that the majority of existing studies have focused on institutional engagement instead of course engagement was also explored. The following section reviews research that has been conducted about engagement in online settings. The majority of studies focusing on engagement in online courses have focused on four-year institutions and student engagement. The studies detailed in the following section reflect the bulk of literature and detail student engagement in traditional settings.

Student Engagement in Online Courses

The use of information technology has become ubiquitous on college campuses with email, the internet, and word processing programs becoming as common as telephones and backpacks (Laird & Kuh, 2005). Nearly 60 percent of students have taken at least one online course (Rabe-Hemp, Woolen, & Humiston, 2009). Online enrollment continues to grow even though the retention rate for online students is much lower than those in traditional classrooms (Morris, 2011). The lower retention rate kindles an ongoing debate about the quality of courses delivered in this method. Some criticisms point to a concern that online education fosters poor interactions between students and faculty (Bernard, Brauer, Abrami, & Surkes, 2004).

Bernard et al. (2004) suggest that interactions suffer in the online setting. They attempted to determine the prerequisites of online learning in order to create an instrument predicting achievement success in online learning. They used a survey to determine the main factors that are prerequisites for success in the online classroom. One of the factors identified related to student desire for interaction with fellow students and faculty. Examining factor analysis indicated that this construct had a negative correlation to student success, leading the researchers

to infer that those who wanted greater levels of interaction performed poorly in the digital course. However, other researchers have found a positive correlation between formal and informal contact between students and faculty and levels of student success. Rabe-Hemp, Woolen, and Humiston (2009) suggest that physical distance has no bearing on the ability of students and faculty to interact.

Another concern about online coursework is that information technology can be distracting or have little educational value. However, educationally purposeful uses of computer technology, such as using email for academic interaction, have been shown to benefit students (Laird & Kuh, 2005). Recent studies indicate that online courses result in the same or even higher levels of engagement in the online arena as in the traditional classroom (Rabe-Hemp, Woollen, & Humiston, 2009).

Laird and Kuh (2005) carried out a study examining how information technology impacted engagement. Their sample consisted of nearly 60,000 students from more than 420 four-year colleges and universities. The researchers explored the relationship between student institutional engagement and information technology in two ways. First, they examined each NSSE item to determine if the items about student use of technology related to other areas of institutional engagement. Then they performed a factor analysis between the NSSE technology items to create information technology scales. The factor analysis led to the removal of several items from the scale. Once the information technology engagement scale was extrapolated, the relationship between the new scale and the five established NSSE scales were examined. The role of the information technology items as a part of the overall NSSE design was examined to determine if the factor analysis of the overall survey differed when the information technology items were included. The researchers had assumed that information technology is separate from, but related to, other forms of student engagement.

One finding of the study was that students who reported using computers for classroom-related activities or assignments either "often" or "very often" reported that the courses they were in emphasized higher order thinking skills. These students also reported more frequent interactions with professors. Additionally, increased use of institutional library websites to obtain resources was correlated with courses emphasizing the synthesis and organization of ideas. This suggests that information technology does not have a negative impact on the institutional engagement levels of students.

Laird and Kuh (2005) described higher education's investment in information technology as paying off for institutions. They maintain that students are using technology for educational purposes and the use is positively linked to effective educational outcomes, especially institutional engagement in the areas of academic challenge, student-faculty interaction, an active and collaborative learning. They found that information technology has a positive effect on student outcomes such as learning, self-reported gains in overall general education, personal development and intellectual development. They also note differing levels of influence based on type of college, socioeconomic background, and student ability level. The results of their study indicated a positive relationship between academic applications and uses of information technology and institutional engagement. The strongest positive relationships were found for academic challenge, student-faculty interaction, and active and collaborative learning (Laird & Kuh, 2005).

Other studies found a positive relationship between online learning and student institutional engagement. Arbaugh (2000) identified four key factors that influence online learning. The factors are: student perception of course usefulness; the flexibility the course offers to students and faculty; the emphasis on and ease of interaction; and the student's engagement in the course (Arbaugh, 2000). Wingard (2004) conducted a mixed-methods study about the use of technology in the classroom to determine if face-to-face interaction in the traditional classroom

was changed by faculty use of Web-enhancements. He found that using Web-enhancements led to faculty reported increases in communication with students and interactions between students and faculty members. He reported an increase in overall student institutional engagement.

Robinson and Choo (2008) used a modified version of the NSSE to gauge the level of institutional engagement of students in online courses. Study participants took an online self-report survey to assess their experiences in their online courses. The online survey was a modified version of the NSSE and contained four of the five areas measured by the NSSE. The area of supportive campus environment was not included in the study.

The modified version of the NSSE survey was completed by 201 undergraduate students from three institutions. Results from the modified survey were compared to the 2006 NSSE results. The researchers had initially not planned to compare their results to the results of the NSSE. In fact, the NSSE data was to be used as benchmark data since it polls freshmen and senior students at participating institutions. Upon comparison, the researchers found that the online course participants reported higher levels of institutional engagement than either of the NSSE survey groups. However, seniors from the top 10 percent of NSSE institutions reported higher level of institutional engagement than online learners in all areas of the survey except for student interaction with faculty members.

Rabe-Hemp et al.'s (2009) study used mixed methods to explore the differences between learning outcomes, student gains, and satisfaction in online and traditional settings. They surveyed 283 undergraduates, with 27 students in an online course and 256 in a traditional course. The online students were enrolled in a summer class while the traditional course students were enrolled in a class that spanned the fall semester. The researchers used set of institutional engagement and self-reported outcomes measures from the NSSE. They found that students in the online course spent three more hours a week involved in independent class preparations.

There was no significant difference between the two groups in the reported levels of gains in general education. Traditional students reported slightly higher gains in practical skills and higher order thinking. Online students rated their course experience as less positive that the traditional students. They had significantly higher levels of in class participation and student-to-professor contact than students in the traditional class setting. The authors indicate this may suggest that online courses may involve a more reflective style of learning. The online students reported lowered interactions with classmates.

Research conducted by Chen, Gonyea, and Kuh (2008) compared online and traditional learners at traditional, four-year degree granting schools. They had several research questions including comparing the institutional engagement patterns of satisfaction of online versus campus-based learners and age. They found that the distance learners generally scored higher in engagement that the campus based counterparts, including higher scores in levels of academic challenge and reflective thinking.

A study by Lim, Kim, Chen and Ryder (2008) investigated if instructional delivery methods impacted student achievement and student satisfaction levels. An undergraduate wellness class was delivered via three delivery methods one semester. The first delivery method was the traditional classroom setting; the second method was an online setting only; and the third was a combination of online and traditional instruction, referred to as a hybrid design. Four groups of students, two classes in the traditional classroom, one class in the online only class, and one class in the hybrid class, were the study participants. The four classes were grouped by delivery method, resulting in three experimental groups. Participants in all three groups completed an online survey designed to gather information about student demographics and background, overall student satisfaction, student perceptions about the delivery method, the effectiveness of the instructor, the quality of course communication, and the support provided in the course. A modified version of a teaching survey, a satisfaction survey, was also used to

evaluate course content, the availability of the instructor, the learning experience, and the grading process. Content pretests and posttests were given in order to determine the amount of content mastered by the students over the course of the semester. All four groups of students had the same instructor for the course and the same testing instruments were used with all four groups as well.

The pretest content test data revealed that there were no statically significant differences in the mean scores of the three groups, indicating that the students entered the course with statistically similar levels of knowledge about course content. One-way ANOVA test results indicated a significant difference between the posttest scores on the content test for the three groups. The online group and the combination group scored significantly higher on the course content test, compared to the traditional instruction group. There was no significant difference between the scores of the online and the combination groups. The combination group scored significantly higher on the student satisfaction survey than the traditional group. Although there was not a significant difference between the online group and the traditional group, there was also not a significant difference between the online group and the combination group.

All three groups positively rated their learning experiences. The online and the combination groups' positive ratings were significantly higher than those given by the traditional group. They also had a significantly higher rating of quality of communication with their instructor. These results suggest that online courses, and courses combining elements of online and traditional courses, can have an impact on student achievement, student satisfaction, and student learning experiences.

These studies indicate there may be a difference between the institutional engagement level of online learners and on-campus learners. Many researchers devote their efforts toward researching student perceptions of institutional engagement. Research has shown that if students

feel that they are engaged in a learning environment, learning is more likely to occur. Ortiz-Rodriguez, Telg, and Irani (2005) researched student perceptions about quality in distance education. Their research asked students enrolled in online courses to list factors that contributed to course quality. The most important factor listed by students was instructor feedback. Students noted that they preferred individualized and prompt feedback. The researchers highlighted several communication tools that professors can use such as email, discussion groups, and chat rooms. Herbert (2006) found similar results, noting that the most highly ranked variable, in terms of importance to students, is faculty being responsive to student needs.

The studies mentioned in the preceding paragraphs were conducted at four-year institutions or used data gathered at four-year institutions. All of the studies focused on institutional engagement. Researchers recommend proceeding cautiously when applying four-year data to community colleges (Marti, 2009) because students enrolled at community colleges are often very different from students enrolled at four-year colleges. According to McClenney & Greene (2005) nearly two-thirds of community college students work more than twenty hours a week. One third cares for dependents eleven or more hours a week. Almost all commute to class. Nearly 90 percent of these students do not participate in co-curricular activities. Additionally, few community colleges offer on-campus living and the scope of extracurricular activities at these institutions varies significantly from those offered at four-year colleges. The following section details research about online student engagement across institutional type.

Online Engagement across Institutional Type

Allen and Seaman (2008) surveyed chief academic officers and professors at 2,588 higher education institutions to learn about the online offerings at each type of college. The researchers defined online courses as those where at least 80 percent of the content was delivered

online; hybrid courses as those with less than 30 percent of content delivered online; and web-facilitated courses as those with more than 30 percent of the content delivered online.

Their study resulted in key findings related to the demographics of online education. Associate degree-granting institutions teach about 37 percent of all students enrolled in higher education that but over half of all online students are enrolled in these institutions. Doctoral and research institutions enroll less than 20 percent of all students currently enrolled in online coursework but were the first universities to offer this type of course. Although associate degree-granting institutions entered the market of online education later, the greater student enrollment at these institutions can be attributed to two things: the centrality of online learning as it relates to the institution's mission and the composition of the student body (Allen & Seaman, 2008).

Allen and Seaman also investigated if online education was critical to the long-term strategy of a variety of Carnegie classified institutions. Over a five-year period, roughly 58 percent of surveyed institutions indicated that online education is important. Seventy percent of the public universities surveyed indicated that online education is a critical component of their long-term strategy, while 47.1 percent of private nonprofits shared that view. Within Carnegie Classification groups the percentage of institutions considering online education to be important to their long-term strategy varied across institutional type with 54.8 percent of doctoral/research granting institutions, 66.5 percent of associate-degree granting institutions, and 62.6 percent of institutions conferring specialized degrees indicating that there is a link between offering online courses and their long-term strategies.

The researchers found that public institutions, with the largest numbers of online offerings and enrollments, have the most favorable view of online education. However, 60 percent of all institution types surveyed agree that there is increasing competition for online students.

The study also resulted in a large amount of data regarding offerings across discipline. The information was gathered only for those institutions with online degree programs such as certificates or degrees. Universities offering online courses outside of an online degree program were not included in the results. Public institutions were found to have program rates that were higher than other types of institutions in all areas except for engineering programs, which were most often offered online by private for-profit institutions.

Allen and Seaman (2008) found that administrators in associate degree-granting institutions consistently had the most positive view of online education while those in baccalaureate degree granting institutions have the most negative. However, the researchers noted that this result may be skewed since only online degree programs, and not online courses that were not part of a degree program, were considered.

The researchers also found that most institutions began offering online programs in order to expand their geographic base. Over 85 percent of online students either live within a 50-mile radius of the campus or reside in the same geographical region as the college offering the course. Private institutions are most likely to serve students outside of their region. Military students taking courses online mainly enroll at private, for-profit colleges.

Marti (2009) highlights three reasons why research that has been conducted in four-year institutions in the area of online learning should be replicated at community colleges in order to reflect the unique needs and characteristics of community college students. Community college students often have more extensive developmental needs since more of them enter college needing remedial level coursework. Community colleges also offer a wider range of educational programs including remedial programs, courses counting toward the first two years of a baccalaureate degree, technical courses, vocational courses, and certificates, with the latter not being available at traditional schools. This muddies the ability of instruments and models,

designed for use at traditional institutions, to measure successful educational attainment in two-year institutions since the reasons students have for attending community colleges are very diverse (Marti, 2009; Saenz, Hatch, Bukoski, Suyun, Lee, & Valdez, 2011).

Many of the social experiences provided in a four-year institution are not available at community colleges since there is typically less institutional infrastructure for such activities at these schools (Marti, 2009). Marti (2009) highlights that community colleges only offer a small fraction of the clubs, sports programs, and Greek Life opportunities of four-year schools. He suggests that researchers should not assume that there are fewer opportunities for engagement in community colleges but, rather, that the engagement may be supported in different ways in two-year institutions.

This section explored online course offerings as they differ across institutional type. The differences between four-year and two-year institutions highlight the need for studies about engagement in online courses to be conducted at the community college. The following section explores studies that have been conducted about student engagement at community colleges.

Online Engagement in the Community College

Numerous studies have examined online student engagement in four-year institutions but few studies have examined online student engagement in the community college setting. Marti (2009) conducted a meta-analysis and found that from 1990-2003 only 8 percent of the 2,300 articles published about engagement included data gathered at community colleges. This suggests that a limited number of the studies exploring any type of engagement have been conducted at the community college level. Yet there is a need for student and course level engagement to be explored at two-year institutions. Community college students have a poor retention rate with the average dropout rate for first-year students at 33 percent (Gibson & Slate, 2010). More alarming is the finding that community college students enrolled in online courses

drop out at a higher rate than their traditionally instructed peers (Jaggers & Xu, 2010; Xu & Jaggers, 2011, Xu & Jaggers, 2013). The negative impact that online education has on the community college retention rate warrants a closer examination.

Enthusiasm over technology-based programs has led educators to ask if online learning could increase the access, progression, and success of low-income and underprepared college students. Jaggers (2011) found that little research has focused on low-income or under-prepared students. Of the 36 research studies explored in her meta-analysis, more than half focused on four-year institutions, three focused on graduate level courses, one focused on for-profits, and ten focused on community college courses. Six of the studies examined online learning. The studies indicated that online courses have higher mid-semester withdrawal rates than traditional classes. In fact, all of the studies showed higher withdrawal rates for online courses taken by community college students, with online students experiencing course withdrawal rates 10 to 15 percentage points higher than those in traditional delivery courses.

Jaggers called for more research to focus on how online learning could impact low-income students. She encouraged researchers to work to isolate the key elements and mechanisms of effective non-instructional supports and to identify the instructional behaviors and activities that encourage student engagement, motivation, retention, and learning.

Jaggars and Xu (2010) conducted a study about retention and online courses at a community college. They found that students who complete online courses make the same grades as those who complete face-to-face courses. They also found that community college students in online courses are more likely to fail or withdraw from online course than from traditional courses. This finding was supported by another study conducted by the same researchers (Xu & Jaggers, 2011). The second study determined that community college students who took online courses early in their academic careers were significantly less likely to

stay in college, to earn a degree, or to transfer to a four-year institution when compared to their peers in traditional or hybrid courses. Jaggers and Xu (2010) attributed the low retention of these students to the under-preparedness of community-college students in the area of computer-related skills, such as the ability to type or issues navigating the course management systems, or problems with time-management skills or poor independent learning skills. Underprepared students are traditionally defined as those who score below college-ready standards on placement tests. However, researchers in this study chose to define underprepared students as those enrolled in at least one remedial English or math course.

They found that online course enrollment rates were higher for non-developmental courses and non-gatekeeper courses. The courses in their study represented a higher than average proportion of social/military sciences and humanities/fine arts courses. The students who took remedial courses online were less likely to move on to college level math or English courses than those enrolled in the traditional courses.

Xu and Jaggers (2013) later explored the similarities and differences between students who enrolled in a community college for the first time during the fall 2004 term. All students in the study enrolled in one of Washington State's two-year public colleges. The students were tracked for five years in order to examine student persistence and performance in online courses as it compared to student persistence and performance in the traditional classroom. They found that being in an online course had a significant negative impact on student persistence in courses and on the overall course grade.

It is interesting to note that the research presented in this paragraph links community college student online course enrollment to increased levels of student withdrawal from college and a reduced likelihood of completing future degrees. These studies examined retention rates, rather than course engagement, at the community college level. However, exploring student

course engagement in community college online courses may help provide a snapshot of why students enrolled in these courses have lowered persistence levels when compared to their peers who are enrolled in traditional or hybrid courses. One potential variable that may contribute to the differences that have been found may be that some course disciplines may be better suited for online course engagement than others. The following section explores the research conducted in the area of how engagement levels in online courses differ between course disciplines.

Online Engagement across Course Discipline

Few studies have focused on engagement levels across course discipline. Jaggers and Xu (2010) examined course enrollment by type of course as classified by the NCES Higher Education General Information Survey taxonomy. They collected data from community colleges in Virginia for this study. They found that the highest number of online courses were in Social/Military Science, Humanities/Fine Arts, Health, Business, and Information Technology. Below average areas of enrollment include Math, English, Physical/Computer Science, Student Development/ESL, Electrical/Mechanical Engineering, and Natural Sciences. They then tested student institutional engagement in specific courses. Student institutional engagement in Math courses indicated no significant difference between scores for the online and traditional modes. Student institutional engagement in English courses, however, showed a significant difference, with online course takers being significantly less engaged. They also found that students who took online remedial courses, in Math or English, were significantly less likely to take college level Math or English classes when compared to students taking the remedial classes in a traditional format.

The researchers continued to examine course subject by studying community colleges in Washington (Xu & Jaggers, 2013). They found that online courses were most often taken in arts and humanities areas than in sciences. They explored student adaptability to online learning by

examining course persistence and course grade. Every academic area they studied yielded negative effects for persistence and course grade in online courses with only education courses, with significant results for almost every academic area.

Few studies have explored community college student engagement in online courses. Likewise few studies have addressed if the online engagement of community college students differs across demographic variables such as age, gender, and employment status. The following section explores the research conducted in that area.

Online Engagement across Demographic Variables

This study focuses on three demographic variables that impact the engagement levels of college students: age, gender, and employment status. These variables play an even greater role in community colleges. Nearly two-thirds of American community college students are enrolled as part-time students or as non-traditional students (McClenney, 2007; Shugart, 2008). Many of these students are older than traditional aged college students. They are also more likely to have one or more jobs. The following sections focus on these three variables.

Online Engagement across Age Groups

The number of non-traditional aged college students is on the rise. The United States Department of Education reports that more than 80 percent of all college students could be considered non-traditional due to living off-campus or working full-time (Geith & Vignare, 2008). In the arena of online education, Jaggers and Xu (2010) found that online community courses had significantly higher enrollment levels for students over the age of 25. Some research indicates that adult students are more engaged (Saenz et al., 2011). Gibson and Slate (2010) found that non-traditional age students have significantly stronger relationships with faculty members, college administrators, and other students when compared to their traditional aged peers.

Much has been written about the so-called "digital divide" that exists between older and traditional aged students. Jesnek (2012) describes the role of technology in the college classroom as one of the biggest shifts that adult students returning to college after not being in a classroom for ten or more years face. In general, the research exploring student success in online courses shows varying results. Some research indicates that there may be no relationship between age and academic success in online coursework (Jost, Rude-Parkins, & Githens, 2012; Osborn, 2001; Wang & Newlin 2002). Other researchers point to age as a potential reason for higher levels of online course completion, with older students demonstrating higher completion rates (Wojciechowski & Palmer, 2005). Bayne and Ross (2007) describe the ability to use and understand technology as varying between age groups with 35-44 year olds demonstrating the highest levels of Internet use. Xu and Jaggars (2013) found that older students were more adaptable to online courses than younger students. However they also found that older students earned significantly lower grades in online courses than in traditional courses and were more likely to drop out of the course.

The information gathered about the relationship between age and online engagement yields inconsistent results. Additionally all the studies exploring potential links between these variables have focused on institutional engagement. None have explored the potential impact of age at the course level. The next section examines the studies that have looked for a link between gender and online engagement.

Online Engagement and Gender

Much like examining the role age plays in online course engagement, the role gender plays in online course engagement has also led to differing results. Koutropoulos (2011) found that gender does play a role in student engagement with males showing higher levels of student engagement than females. Other researchers have found no difference for the student

engagement levels of males and females. Reisetter and Boris (2004) found no significant difference between the course success rates of men and women in an online course at a four-year institution.

Most of the research involving gender differences has focused more on the relationship between academic performance and gender in online courses, rather than the relationship between gender and online student engagement. Much like the student engagement research, a number of studies show no difference between the performance of males and females (Astleitner & Steinberg, 2005; Sierra & Wang, 2002; Yurkselturk & Bulut, 2007). Other studies have found that women significantly outperform men in online courses (Price, 2006; Rovai & Baker, 2005, Xu & Jaggars, 2013). Xu & Jaggars (2013) recommend comparing the success rates of women in online courses to the educational outcomes of women across a variety of situations, noting that women have higher high school graduation rates and college degree earning rates than men.

The limited amount of research conducted in this area coupled with the disparate results indicates a need for the relationship between gender and online course engagement to be explored more fully. The following section details research about working students and their engagement in online courses. This appears to be the least researched demographic variable explored by this study.

Online Engagement and Working Students

In 2006, researchers found that forty-six percent of adult learners surveyed at four-year institutions worked at least 30 hours a week (Gibson & Slate, 2010). Community colleges offer the highest number of courses to working adults, enrolling nearly two-thirds of all nontraditional students in higher education (Shugart, 2008). Working adults may have different ways of engaging in courses than their non-working or traditional aged counterparts.

Community college students who work the most hours are more likely to take online courses than their peers (Xu & Jaggars, 2011). Studies examining the success rates of working students in online courses have yielded inconsistent results. Luan, Zhoa, and Hayek (2009) found that part-time students with jobs displayed lower levels of institutional engagement than full-time students with few responsibilities. Lang (2012) conducted a study at a four-year institution with traditional aged students and found working students to be less institutionally engaged in coursework. Other researchers have found that part-time students are more institutionally engaged than their unemployed counterparts and that students classified as full-time employees more likely to demonstrate engagement practices tied to higher academic achievement (Saenz, Hatch, Bukoski, Suyun, Lee, & Valdez, 2011; Philibert, Allen, & Elleven, 2008).

The lack of research conducted about course engagement at community colleges indicates the need for additional exploration. Simply examining any potential differences between the course engagement levels of community college students enrolled in online and traditional students is inadequate. In order to more fully advance the existing body of knowledge in the area of online course engagement, the relationship between course discipline and demographic variables also needs to be explored. This section has described the current body of knowledge that exists in these areas. In the next chapter, the way that data will be gathered is presented. Instrumentation and the reliability and validity of the instrument will be described. Finally, the statistical methods that will be employed to gather and analyze data are delineated.

CHAPTER III

METHODOLOGY

The literature review in chapter two provided the context for understanding the existing research in the area of community college student course engagement in online and traditional courses. This chapter describes the research design employed in this study to examine the relationship between course engagement levels of community college students and the enrollment status of the students. The purpose of the study and the research questions are restated in this chapter. The methodology employed in the study along with the research design, instrumentation, sample, procedures and data collection, data analysis, and a summary of the chapter are also included.

Purpose of the Study

The purpose of this study was exploring community college student course engagement levels in online and traditional course settings. Course engagement levels in a variety of discipline areas, comprised of the required general education courses described by the Oklahoma Regents and offered at both institutions, was examined. Finally, this study examined the impact that demographic factors such as age, gender, and employment status may have on student course engagement at the community college. Specifically, this study examined the relationship between

community college student enrollment in online or traditional courses and scores on the College Student Engagement Questionnaire (CSEQ). This study attempted to examine and explain the relationships between variables, a design characteristic that Creswell (2009) considers to be a hallmark of quantitative study. The collection and analysis of data, through the use of a variety of statistical methods, contributes to the quantitative design of the study (Muijs, 2004). The data collection method consisted of an online survey instrument, a fast, efficient means of gathering data that is easy to administer and allows large numbers of people to be surveyed (Sue & Ritter, 2007).

Research Questions

The following three research questions guided this study:

1. Do community college students enrolled in online courses perceive different levels of course engagement that those enrolled in traditional courses?

2. Do community college students enrolled in online courses perceive different levels of course engagement across all course disciplines than students enrolled in traditional courses?

3. Do course engagement levels of community college students enrolled in online and traditional courses vary based on the age, gender, and employment status of the students?

Research Method and Design

This study employed a quantitative approach to answer the three research questions. Creswell (2009) supports the usage of quantitative approaches, writing that "a quantitative approach is one in which the investigator primarily uses post-positivist claims for developing knowledge, employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data" (p. 18). For the purpose of this study, the

quantitative approach allowed for survey use and subsequent analysis of survey data. The types of quantitative methods used in this study are described in the following paragraphs.

This study used a combination of descriptive and inferential statistics to analyze the collected survey data and consider the research questions. Descriptive statistics including the mean, standard deviation, and ranges for the independent variables were examined in order to group the data and check for potential data entry errors.

Inferential statistics were used to explore the relationship between the variables. A paired sample t-test design was used to explore research question 1. A t-test allows researchers to assess the statistical significance between two sample means for a single dependent variable (Hair, Black, Babin, Anderson, & Tatham, 2006). The decision to use a paired-sample design was based on the fact that the same students responded for the online and traditional parts of the survey. This data analysis method allowed the mean scores of the perceptions of course engagement levels for students enrolled in online courses and the perception of course engagement levels for students enrolled in the traditional course to be compared. Additionally, using the paired sample method allowed for the assumption of homogeneity of variance to be met. The t-test used a confidence interval of 95 percent with the level of significance being 0.05.

Research question 2 utilized a 2-way analysis of variance (ANOVA) design. The group means of course enrollment status, either online or traditional, were examined to determine if they varied across different course disciplines. This is similar to the method used by Xu and Jaggers (2013) that explored student adaptability to online courses across 11 distinct subject areas. In their study, a 2 x 11 ANOVA explored the interaction between course persistence and academic subject area. They used another 2 x 11 ANOVA to examine the possible relationship between course grade and academic subject area.

In this study, students identified which online and traditional general education courses they were taking or had taken in the past. The courses that were included in the survey were American Federal Government, American History Since 1877, College Algebra, English Composition 1, English Composition 2, General Biology, General Chemistry, Western Civilization, and Introduction to Psychology. The courses were collapsed into six content areas: History, composed of American Federal Government and American History since 1877; Math, containing only College Algebra; Language Arts, consisting of English Composition 1 and English Composition 2; Science, comprised of General Biology and General Chemistry; Humanities, containing Western Civilization and Introduction to Psychology; and a category called "More than one Content Area," comprised of participant responses with more than one content area selected.

These courses were selected because they are required for students to meet the Oklahoma State Regents for Higher Education general education requirements and are needed to earn associate degrees at the studied community college. Each course is offered in online classroom-based sections. Student responses for traditional and online versions of the courses were coded with a "1" representing enrollment in the course and a "2" representing not being enrolled in the course.

Comparing the differences between two or more groups is statistically tested through the use of ANOVA (Hair et al., 2006). The ANOVA used a confidence interval of 95 percent with the level of significance being 0.05.

Research question 3 utilized three 2-way ANOVA designs, allowing each demographic factors potential interaction with the engagement scores to be examined. A similar design was used by Lerma (2011) in her research. She explored the relationship between age, gender, and dependent care as they related to student engagement survey results. The ANOVA design in this

study allowed for the group means of online or traditional course enrollment to be compared across the student demographics variables of age, gender, and employment status. This ANOVA design used a confidence interval of 95 percent with the level of significance being 0.05.

Sample and Sampling Method

The sample for the study consisted of students enrolled in two community colleges in rural Oklahoma. The sample population members were enrolled in traditional and online versions of the following general education courses at their institutions during the Spring 2015 semester: American Federal Government, American History Since 1877, College Algebra, English Composition 1, English Composition 2, General Biology, General Chemistry, Western Civilization, and Introduction to Psychology.

The institutions identified participants who were enrolled in at least one online course for the Spring 2015 semester. Each institution emailed the students in the identified the sample an email invitation, written by researcher, to participate in the survey. The survey was administered online via the Oklahoma State University Qualtrics survey platform. The initial email requesting participation was sent to 330 students at one community college and 178 students at the other.

There were 134 survey respondents. Twenty-two of the initial responses were removed from the sample due to incomplete survey data, since those respondents answering a few demographic questions and failing to respond to the CSEQ survey. The remaining 112 survey responses were reviewed and, as anticipated, the researcher determined that two sub-groups existed. The first group was comprised of 65 respondents who answered the SCEQ for online and traditional courses. The second group consisted of 47 students who answered either the SCEQ for online courses or for traditional courses.

Instrumentation

Course student engagement for online courses and traditional courses was measured using the SCEQ (Handlesman et al., 2005). Written permission to use the instrument was obtained by the researcher and a copy of this is located in Appendix A. The SCEQ is comprised of 23 items in a Likert scale survey. The survey items provide information about four dimensions of student perceptions of course engagement. The instrument was developed through an inductive approach. Students and faculty members were asked to describe the characteristics of engaged students. Handlesman et al. (2005) identified 27 behaviors and attitudes associated with engaged students and developed a pilot questionnaire based on these components of engagement. The data gathered in the pilot study was factor analyzed. Four clusters of factors were identified as being most closely related to student engagement. Four of the pilot study survey items were not associated with any of the factor clusters and were omitted from the final version of the SCEQ.

The remaining 23 items fell into the four main clusters. The first cluster, "Skills Engagement," included questions related to taking notes, studying, and attending class. The second cluster, "Emotional Engagement," included items related to affective dimensions such as wanting to learn the material, applying course material to the real world, and finding ways to make course information and materials interesting or relevant. The third cluster, "Participation/Interaction Engagement," incorporated behaviors such as participating in small group activities within the course, having fun during class, and helping other students in the class. The fourth cluster, "Performance Engagement," reflected academic performance items such as doing well in the class, earning good grades, and feeling confident about student performance in the class. The combined factors accounted for 42.59 percent of the variance in the study.

A handful of studies have used the SCEQ. Jenkins (2010) used the instrument to explore the link between student engagement and formative assessment at a community college in Tennessee. Dolan (2011) assessed student engagement in online, asynchronous, and reflective discussions through the use of SCEQ. The studies utilized the SCEQ because of its focus on engagement at the course level rather than engagement at the institutional level (Jenkins, 2010; Dolan, 2011). Dixson (2010) modified Handlesman et al.'s SCEQ as a foundation for her study since the measure focuses on course level engagement. However, she felt that the survey was only appropriate for traditional courses and modified the survey to make it applicable to online environments. She created a focus group of experienced online educators and had them describe how online learners would demonstrate the types of engagement described in the SCEQ. She used the recommendations of these instructors to modify the SCEQ into an instrument applicable to online courses. For example, the original item "Listening carefully in class" was replaced with "Listening/reading carefully." This modified SCEQ was piloted with a handful of online students and was found to have a reliability of 0.95. The scale was also found to have face validity.

For the purposes of this study, students in traditional courses completed an online version the SCEQ (Appendix B) while students online courses completed a modified version of the SCEQ (Appendix C), developed to address the unique needs of online learners. In addition to taking the original or modified SCEQ, participants were asked to indicate the type of course enrollment (online or traditional), the course discipline, and student demographics (age, gender, and employment status). These variables comprised the study's independent variables while the student responses to the original or modified SCEQ was the dependent variables. A copy of the finalized instrument is included in Appendix D. All questions and both versions of the survey are included in the online instrument.

Reliability and Validity of the Instrument

Handelsman et al. (2005) reported internal consistency reliability coefficients for the four factors. The coefficient alphas for the factors were as follows: Skills Engagement, .82; Emotional Engagement, .82; Participation/Interaction Engagement, .79; and Performance Engagement, .76. Streiner (2003) describes alpha levels as .70 and above as being at the appropriate levels for research tools. Validity of the SCEQ was addressed by determining the correlation between student final course grade and their scores on the survey. All four factors had reliabilities above Steiner's recommended range.

Student Demographic Information and Enrollment

Student enrollment information was gathered through self-reported information on the survey. Students indicated on the survey if they were currently or had ever been enrolled in online or traditional courses comprised of general education required courses available at both institutions. The nine courses were collapsed into six content areas: History, composed of American Federal Government and American History since 1877; Math, containing only College Algebra; Language Arts, consisting of English Composition 1 and English Composition 2; Science, comprised of General Biology and General Chemistry; Humanities, containing Western Civilization and Introduction to Psychology; and a category called "More than one Content Area," comprised of participant responses with more than one content area selected.

Two new variables, "Traditional Course Collapsed" and "Online Course Collapsed" were created. The "Traditional Course Collapsed" variable was coded into 6 levels with "1" representing reported enrollment in a traditional delivery history course; "2," traditional delivery language arts course; "3," traditional delivery math course; "4," traditional delivery science course, "5," traditional delivery humanities course and "6," enrollment in more than one traditionally delivered course.

The "Online Course Collapsed" variable was created in a similar manner. Student responses for course enrollment were coded into this new variable with "1" representing enrollment in an online delivery history course; "2," an online delivery language arts course; "3," an online delivery math course; "4," an online delivery science course, "5," an online delivery humanities course and "6," enrollment in more than one course delivered online.

Student demographic information was gathered through self-reported questions on the survey. Students selected their age range, the number of hours they work weekly and their gender. Students also selected courses they had taken or were taking online or traditionally. The "age" variable was coded into five levels: 18-25, 26-35, 36-45, 46-55 and 56 and older. The "numbers of hours worked per week" variable was coded into five levels as well: does not work, works less than 10 hours weekly, works 10-20 hours weekly, works 20-30 hours weekly, works more than 30 hours weekly. The variable "gender" was coded into two groups: male and female.

Procedures and Data Collection

The researcher obtained approval to complete this study from one community college's Institutional Review Board (Appendix E) and from the president's office of the other institution since that institution does not have an Internal Review Board (Appendix F). Approval was also given from Oklahoma State University (Appendix G). An email inviting students enrolled in the aforementioned online general education core courses for the spring 2015 semester to participate in the survey was sent April 20, 2015 (Appendix H). A follow up email was sent April 28, 2015 (Appendix I).

The email inviting students to participate and the follow up email contained a hyperlink to the Qualtrics platform that housed the survey. Click on the hyperlink took students to the survey. Once students completed the survey a record of their responses was held in the Qualtrics program but can only be accessed by the researcher.

The survey remained active via the Qualtrics hyperlink provided in the emails until May 15, 2015. The volunteer sample consisted of 134 respondents, drawn from the population of 508 students (26% of the population).

The data gathered on the site was uploaded to SPSS. SPSS student version 21 was used to analyze all data in this survey. Each respondent was examined case-wise and incomplete survey responses were removed from the data set. There were 22 incomplete surveys that were removed from the data set, resulting in a sample of 112 surveys.

Summary

This chapter detailed the methods that were used to gather and analyze data in order to address the research questions. The sample and procedures were described. Instrumentation, along with the reliability and validity of the instrument were detailed. The following chapter will present the findings related to the methodology described in this chapter.

CHAPTER IV

FINDINGS

The purpose of this study was to explore student perceptions of engagement in online and traditional courses at community colleges. The study gathered demographic and engagement data from 134 students at two community colleges in Oklahoma. The data collected was used to answer three research questions:

1. Do community college students enrolled in online courses perceive different levels of course engagement that those enrolled in traditional courses?

2. Do community college students enrolled in online courses perceive different levels of course engagement across all course disciplines than students enrolled in traditional courses?

3. Do course engagement levels of community college students enrolled in online and traditional courses vary based on the age, gender, and employment status of the students?

Quantitative data analysis techniques, including descriptive statistics, t-tests and analysis of variance (ANOVA), were used to answer these questions. The findings are outlined in the sections in this chapter. The chapter begins with a discussion of the sample and adjustments made to the sample size. Data analysis methods to explore the research questions are described along with information about the testing of hypotheses.

Sample Analysis

Students at two rural Mid-western community colleges were surveyed. The sample consisted of 134 survey respondents. Twenty-two of the initial responses were removed from the sample due to incomplete survey data, since those respondents answering a few demographic questions and failing to respond to the CSEQ survey. The remaining 112 survey responses were reviewed and, as anticipated, the researcher determined that two sub-groups existed. The first group was comprised of 65 respondents who answered the SCEQ for online and traditional courses. The second group consisted of 47 students who answered either the SCEQ for online courses or for traditional courses. Drawing comparison between the two separate groups would result in a violation of the t-test and ANOVA assumption of homogeneity of variance. The decision to use the sample that answered both surveys, a group referred to as "within groups" sample in this study, was made since this allows for the comparison of student perceptions of engagement for individuals who have experienced both modes of delivery (N = 65). The "between groups" sample, comprised of those answering the survey from one perspective, was excluded (N = 47).

Research Question 1

The first research question explored differences in student perceptions of course engagement in online or traditional courses. This question was examined through the use of descriptive statistics and a paired samples t-test, allowing mean scores for perceived engagement to be compared for the same survey takers.

Table 2 shows the means (M) and standard deviations (SD) of the scores on the SCEQ. The questions on the SCEQ have been listed. If the questions varied for online and traditional courses the online survey version of the question has been listed first with the traditional version

of the question listed after a slash. If the question was the same on both versions of the survey, the wording does not contain a slash.

In order to create an aggregate view of the data, grand means for the online group and the traditional group were created. The grand means were computed in SPSS by adding up the 23 individual item scores and finding the mean of those scores. A paired-samples t-test was conducted using the grand mean and the results indicated a significant difference between the two groups means with $t(64) = -2.20$, $p < .05$ indicating that students felt more engaged in the traditionally delivered courses ($M = 4.09$, $SD = .53$) than they did in the courses delivered online ($M = 3.97$, $SD = .60$).

Table 2
Student Perceptions of Course Engagement by SCEQ Item (N=65)

Survey question	Online Class Mean (*SD*)	Traditional Class Mean (*SD*)
Participating in discussion board/raising hand in class	3.60 (1.1)	3.42 (1.24)
Being active in discussion board groups/small groups in class	3.48 (1.08)	3.88 (.96)
Emailing instructor/asking questions in class when I don't understand the instructor	4.08 (.92)	3.97 (.90)
Doing all the homework	4.49 (.66)	4.48 (.64)
Logging into class the required times weekly/coming to class	4.31 (.83)	4.32 (.81)
Emailing/going to the professor's office to review assignments, tests, or ask questions	3.88 (.94)	3.35 (1.21)
Thinking about the class between log-ins/ class meetings	3.85 (.97)	3.93 (.97)
Finding ways to make the course interesting to me	3.6 (.81)	3.97 (.79)

Taking good notes	3.96 (1.07)	4.23 (.70)
Looking over notes between log-ins/classes to make sure I understand	3.83 (1.02)	4.06 (.81)
Really wanting to learn the material	4.27 (.78)	4.20 (.79)
Being confident I can learn and do well in the class	4.02 (.89)	4.28 (.72)
Putting forth effort	4.37 (.67)	4.46 (.64)
Being organized	4.23 (.96)	4.31 (.77)
Getting a good grade	4.40 (.77)	4.46 (.81)
Doing well on the tests and assignment	4.17 (.93)	4.20 (.94)
Staying up on the readings	4.06 (.88)	4.12 (.76)
Having fun in class discussion boards or emails/ in class	3.47 (1.08)	3.93 (.90)
Helping fellow students	3.63 (1.08)	3.98 (.96)
Making sure to study on a regular basis	3.89 (.92)	4.11 (.77)
Finding ways to make the course material relevant to my life	3.89 (.92)	3.97 (.84)
Applying course material to my life	3.91 (.93)	3.95 (.86)
Carefully taking notes during class/ listening carefully in class	4.00 (.97)	4.34 (.71)

Paired-sample t-tests were conducted for each pair of items on the online and traditional versions of the SCEQ to determine the areas in which the grand mean varied across groups. Ten

of the items were found to have means that were significantly different at the $p < .05$ level. The items with significant paired-sample t-test values are listed in Table 3.

Table 3
SCEQ Items with Significant Paired-Sample t-test Results

Survey question	Online Class Mean (*SD*)	Traditional Class Mean (*SD*)	t-test value (*t*(64))
Being active in discussion board groups/small groups in class	3.48 (1.08)	3.88 (.96)	*t*(64) = -2.82*
Emailing/going to the professor's office to review assignments, tests, or ask questions	3.88 (.94)	3.35 (1.21)	*t*(64) = 3.45**
Finding ways to make the course interesting	3.6 (.81)	3.97 (.79)	*t*(64) = -3.70**
Taking good notes	3.96 (1.07)	4.23 (.70)	*t*(64) = -2.48*
Looking over notes between log-ins/classes to make sure I understand	3.83 (1.02)	4.06 (.81)	*t*(64) = -2.03*
Being confident I can learn and do well	4.02 (.89)	4.28 (.72)	*t*(64) = -2.59*
Having fun in class discussion boards or emails/ in class	3.47 (1.08)	3.93 (.90)	*t*(64) = -3.84**
Helping fellow students	3.63 (1.08)	3.98 (.96)	*t*(64) = -3.03**
Making sure to study on a regular basis	3.89 (.92)	4.11 (.77)	*t*(64) = -2.28*
Carefully taking notes during class/ listening carefully in class	4.00 (.97)	4.34 (.71)	*t*(64) = -3.35**

The first hypothesis proposed that students enrolled in online courses would be significantly more engaged than their peers in traditional courses. This hypothesis was not supported by the data. Instead the data indicates that students enrolled in traditional courses are significantly more engaged than their online peers.

Research Question 2

The second research question explored how student perceptions of course level engagement differed by course content. Students identified which online and traditional general education courses they were taking or had taken in the past. The courses that were included in the survey were American Federal Government, American History Since 1877, College Algebra, English Composition 1, English Composition 2, General Biology, General Chemistry, Western Civilization, and Introduction to Psychology. The courses were collapsed into six content areas: History, composed of American Federal Government and American History since 1877; Math, containing only College Algebra; Language Arts, consisting of English Composition 1 and English Composition 2; Science, comprised of General Biology and General Chemistry; Humanities, containing Western Civilization and Introduction to Psychology; and a category called "More than one Content Area," comprised of participant responses with more than one content area selected.

A variable called "Online Engagement Collapsed by Content Area" was created and responses entered into the survey were coded into the six levels mentioned in this paragraph. Table 4 displays the number of responses for each online delivered content area and the means and standard deviations for the content areas.

Table 4
Engagement Means by Course Discipline for Online Courses

Collapsed Course Discipline	*N*	*M*	*SD*
Social Studies	5	4.02	.47
Language Arts	1	5.00	0
Math	0	0	0
Sciences	1	4.04	0
Humanities	7	3.79	.48
More than One Content Area	8	3.72	.55
Total	22	3.88	.54

A variable called "Traditional Engagement Collapsed by Content Area" was created and responses entered into the survey were coded into the six levels mentioned in earlier. Table 5 shows the number of responses for each traditionally delivered content area and the means and standard deviations for those content areas.

Table 5
Engagement Means by Course Discipline for Traditional Courses

Collapsed Course Discipline	*N*	*M*	*SD*
Social Studies	10	4.32	.47
Language Arts	2	3.98	.15
Math	1	3.30	0
Sciences	5	4.06	.60
Humanities	7	4.56	.39
More than One Content Area	16	3.71	.38
Total	41	4.05	.54

Two separate one-way ANOVAs were conducted in order to investigate differences in student perceptions of engagement in online and traditional courses. The ANOVA collected using online engagement scores and collapsed online course disciplines was not significant with $F(4,17) = 1.57$, $p = .228$. Although the results suggest that there is no difference between the mean engagement scores across content areas, pairwise comparisons of mean scores were examined in a follow up Tukey test. Significant differences were found between Language Arts, Humanities and enrolment in more than one online course, with students in online Language Arts courses having significantly higher ($p < .05$) perception of engagement in their course than those enrolled in humanities or in more than one type of online course. These results may be misleading since only one student reported enrollment in online Language Arts. Having additional Language Arts students would allow for a greater chance to compare these means.

Another one-way ANOVA was performed to compare engagement across traditional collapsed courses. The ANOVA yielded significant results with $F(5,35) = 5.25$, $p<.001$. Follow up pairwise comparisons found several significant differences, all at $p<.05$. Student perceptions of engagement in traditional social studies courses were significantly higher than their perceptions of engagement in math and in more than one course. The same was found for humanities, with the mean score for perceptions of engagement in humanities courses being significantly higher than means for math or enrollment in more than one course. However, the math score represents a single respondent, creating too small of a sample for consideration.

The second research hypothesis was that engagement would vary across course discipline. Although there was no significant main effect for engagement across disciplinary field, follow up tests did find significant differences between some disciplines but the small sample sizes in these areas make it difficult to interpret the results.

Research Question 3

Research question three examined the relationship between student perceptions of engagement in online and traditional courses and demographic variables of age, gender and employment status. Three separate one-way ANOVAs were utilized to explore the relationship between the demographic variable and the self-reported scores on the SCEQ. The following paragraphs detail the results and statistical interpretation of each ANOVA.

Age and SCEQ

A one-way ANOVA was used to explore the relationship between age and the SCEQ means for online and traditional courses. Results found no significant different between the means of student perceptions in online courses and traditional courses across age groupings (online perceptions by age $F(4,60) = .22$, $p= .08$; traditional perceptions by age $F(4,60) = 1.54$, $p = .20$). Table 6 shows the mean scores and the standard deviations for each age grouping.

Table 6
Engagement Means (M) and Standard Deviations (SD) by Age

Age	*N*	*Online Class M*	*Online Class SD*	*Traditional Class M*	*Traditional Class SD*
18-25	27	3.98	.58	4.01	.55
26-35	22	4.12	.59	4.28	.49
36-45	5	3.33	.56	3.77	.52
46-55	8	3.82	.54	3.97	.42
56 and older	3	4.25	.67	4.23	.67
Total	65	3.97	.60	4.09	.52

These results suggest that there is no significant difference between student perceptions of engagement in online and traditional courses across a variety of age groups.

Gender and SCEQ

The second one-way ANOVA performed for research question 3 analyzed the interaction of gender and engagement perceptions. The results yielded by this analysis indicate that there is no significant difference between the male and female perceptions of engagement in online or traditional courses with online $F(1, 63) = 0.13$, $p = 0.72$ and traditional $F(1,63) = 0.19$, $p = 0.66$. Table 7 details the mean scores across gender and delivery mode.

Table 7
Engagement Means (M) and Standard Deviations (SD) by Gender

Gender	*N*	*Online Class M*	*Online Class SD*	*Traditional Class M*	*Traditional Class SD*
Male	11	3.91	.73	4.15	.67
Female	54	3.98	.58	4.07	.50
Total	65	3.97	.60	4.09	.53

Employment and SCEQ

The final one-way ANOVA performed to address research question 3 analyzed the relationship between the number of hours worked weekly and student perceptions of engagement in online and traditional courses. Similar to the other tests for research question 3, no significant

results were found to exist with online engagement perceptions across hours worked weekly $F(4,60) = 2.18$, $p = 0.08$ and traditional engagement perceptions across hours worked weekly $F(4, 6) = 2.10$, $p = 0.09$. The means and standard deviations for this variable are detailed in Table 8.

Table 8
Engagement Means (M) and Standard Deviations (SD) by Employment

Hours Worked Weekly	*N*	*Online Class M*	*Online Class SD*	*Traditional Class M*	*Traditional Class SD*
Does not work	11	4.25	.69	4.40	.62
Less than 10 hours	3	4.49	.69	4.30	.79
10-20 hours	11	3.91	.56	3.94	.46
20-30 hours	11	3.64	.52	3.83	.42
More than 30 hours	29	3.96	.56	4.10	.48
Total	65	3.97	.60	4.09	.53

The third research hypothesis was that student engagement would vary across the demographic variables of gender, age and employment status. This hypothesis is rejected. No significant differences were found between any demographic groups in the study.

This chapter has detailed the statistical analyses and findings of this study. The next chapter gives conclusions, draws interpretations and makes recommendations for future research.

CHAPTER V

CONCLUSIONS

Summary

The previous section of this study presented the data gathered and analyzed in this study. This section will draw conclusions about the findings. The first section of this chapter provides a brief summary of what was found. Conclusions, drawn for each research question, are detailed in the second section of this chapter. The chapter ends with a series of recommendations regarding future research in the area of course level engagement at the community college.

The purpose of this study was to explore student perceptions of engagement in online and traditional courses at the community college. The study used a quantitative design to explore three research questions. Participants voluntarily completed the CSEQ and answered questions about their enrollment in online or traditional courses, the course disciplines in which they enrolled and demographic questions related to age, gender and employment.

Statistical analyses were employed to test each research question. Research question 1, comparing student perceptions of engagement in online and traditional courses, was found to be statistically significant. Research question 2, comparing student engagement across course discipline, was not significant. Likewise, research question 3, comparing engagement across the demographic variables of gender, age and hours worked weekly, was not significant. The

following paragraphs detail conclusions made drawn from an examination of the data. Each research question is examined and a detailed discussion of the findings is given.

Conclusions

The previous section provided a brief summary of the findings of this study. In the paragraphs that follow conclusions regarding each research question will be made. The conclusions were drawn through the examination of data trends in light of current research on engagement.

Research Question 1

The first research question used a paired samples t-test to explore the relationship between online course and traditional course engagement. Results indicated that students felt more engaged in traditional courses than in online courses. This appears to go against most of the research on engagement. The results of many studies have demonstrated that students enrolled in online courses are as engaged, or more engaged, than students in traditional courses (Wingard, 2004; Arbaugh, 2000). Three points should be kept in mind when examining the results. First, most of the research in this area has been conducted in four-year institutions (Laird & Kuh, 2005; Arbaugh, 2000). The lack of relevant research in community colleges leaves open the possibility that students in community colleges may differ from their peers in 4-year institutions. The current study provides some evidence of this as suggests that further research is warranted.

The second point to remember is that studies have shown that community college students enrolled in online courses have lower retention rates as compared to students in traditional classes (Jaggers & Xu, 2011; Jaggers & Xu, 2010; Marti, 2009). In fact, Xu and Jaggers (2013) found that community college student enrollment in online courses had a negative impact on student persistence in courses. Additional research indicates that community college students taking online courses early in their academic careers had lower levels of university

retention and were less likely to earn degrees or transfer to four-year institutions (Xu & Jaggers, 2011). The results in this study may shed light on why retention rates are lower for community college students enrolled in online courses. The data indicates that community college students have a lower level of course engagement in online classes. Students are less likely to continue in courses when they do not feel a connection to the coursework, their peers or their instructors. This reflects Astin's Theory of Student Involvement (1984), which postulates that students are less likely to drop out if they feel connected to the university. As community colleges continue to show the greatest growth level of higher education institutions (Cdeja, 2010) and offer a wide array of online courses, those involved in course design and delivery need to question whether the material engages students. Courses need to be created and delivered in a way that allows students to become engaged. Relationships between content delivery styles and course engagement need to be explored, along with how these factors relate to retention.

The final point is that even though there was a significant difference between student perceptions of engagement in online courses and traditional courses, the scores indicate that students have an overall positive perception of their engagement in both online and traditional courses. Means for all items, online or traditional, were above a 3.0. A mean of below a 3.0 would have indicated that students felt that they were not engaged in some areas. Even though student perceptions of engagement in online courses lag behind the means in traditional courses, students report that they are engaged in these courses.

Paired sample t-tests were also conducted for each online course and traditional course item on the survey. Only one of the items, "E-mailing professor to review assignments or tests or to ask questions," yielded a statistically higher mean for the online group as compared to the traditional group. This result suggests that students may find emailing professors to better fit into their comfortable level as compared to visiting professors in person.

The nine remaining items that were significantly different means had higher scores for the traditional course engagement scores. The first of these indicate that students in this study found it easier to be active participants in small group discussions in the traditional classroom than to be an active participant in discussion board groups. This result may not be surprising since discussion threads often consist of asynchronous comments that can be difficult for students to follow or to track. In the classroom setting students are able to have a steady flow of conversation.

The second item with a significantly higher mean for engagement in the traditional setting should be of concern to those developing online course content. Students noted that it is easier for them to find ways to make the course interesting to them in a traditional setting. This suggests that the current course design for some online courses may result in classes that do not hold student interest. This could be directly linked to another item, having fun in class. Student in traditional courses scored significantly higher on the SCEQ on this item. Perhaps the online courses are less interesting because students perceived them as being less fun, possibly less enjoyable, than traditional courses.

A few of the items with significant mean differences were related to study habits and skills. Student perceptions of engagement in traditional courses were higher for taking good notes in class, looking over the notes between classes, listening carefully in class and making sure to study on a regular basis. These scores may differ because of the nature of online courses. Since discussion board content is rarely removed during the course of the semester, students may be less likely to take notes, review the notes, study or pay close attention when information is presented since they are able to access it at any point in time. Likewise an online course utilizing instructor lecture delivered by video from an online platform can be viewed multiple times by students and may lead to less of a reliance on notes and review. In the traditional courses, students likely feel that they need to use notes to capture what is said or displayed at a particular

point in time. They may study on a more regular basis since they cannot easily review what an instructor has said.

Students indicated that they perceive that they are more confident in their ability to learn and do well in traditional settings. A possible reason for this could relate to being able to read the body language of professors when content is delivered and questions or answered. Another potential reason could be that students feel uncomfortable with technology.

The final item that showed significant differences between engagement perceptions was helping fellow students. The difference in scores for this item may also relate to the asynchronous nature of online courses. Additionally, lack of face-to-face meetings may cause students in online courses to feel as if they do not know the people in their online classes. This could impede their perceived ability to help others.

Research Question 2

The second research question explored the relationship between course engagement and course discipline. Little previous research has explored this area, with the exception of studies by Jaggers and Xu (2010) and Xu and Jaggers (2013). These studies focused less on engagement and more on student persistence and were conducted at four-year institutions. They found that students in online courses were less likely to complete courses or earn a higher grade.

The results of this study found no significant difference between course engagement means across course discipline. The lack of significant difference between student engagement means in online courses compared to the means for traditional courses suggests that the course discipline has little impact on how engaged students are in online offerings. Follow up data suggests that there may be differences between student engagement across discipline.

Additional examination of the data across content areas indicated significant differences exist between Language Arts, Humanities and enrolment in more than one online course, with students in online Language Arts courses having significantly higher perceptions of engagement in their course than those enrolled in humanities or in more than one type of online course. These results are misleading since only one student reported enrollment in online Language Arts. Additional Language Arts students would allow for a greater chance to compare these means.

The traditional course results suggest that student engagement in science courses is not dependent on delivery method. The small sample of students in traditional math courses makes it difficult to suggest that online enrollment benefits students in math courses.

However, the low sample size used to address this question makes it difficult to draw conclusions. Future research needs to occur in this area, especially to determine if there are differences in student engagement levels for general education courses.

Research Question 3

The third research question examined three demographic variables: age, gender and the number of hours worked weekly. One-way ANOVAs were used to examine the data and no significant results were found. These results are interesting because the research in these areas shows a wide range of results. The following paragraphs will draw conclusions about each demographic variable.

The results in this study indicate that student course engagement does not vary across age groups. A link between course engagement and student age has not been studied by many, but the relationship of age to other variables, such as academic success has been studied. This finding is consistent with the findings of research on age and academic success (Jost, Rude-Parkins, & Githens, 2012; Osborn, 2001; Wang & Newlin, 2002).

These results may be surprising since many people assume that younger students are more technologically advanced than older students. Perhaps a distinction may need to be made between being technologically savvy and being engaged in online coursework (Jesnek, 2012). The results from this study need additional research since the sample sizes were small.

The second demographic variable was gender. No significant differences were found for the course engagement levels between men and women enrolled in online or traditional courses. Like age, gender and engagement have shown a variety of research results with some studies showing men to be more engaged in online courses (Koutropoulos, 2011), others finding women outperforming men in the online arena (Price, 2006; Rovai & Baker, 2005, Xu & Jaggars, 2013) and a third set of researchers finding no significant difference between the engagement levels across gender (Reisetter & Boris, 2004). The results of this study, taken with other research, indicate that there is no measureable difference between the engagement of males and female across course enrollment type. The small sample size of this study may impact those results.

The final demographic variable was hours worked weekly. No significant difference was found across the number of hours worked weekly, although the means for students not working or working less than 10 hours weekly were higher for both online and traditional courses. The research in this area has focused mainly on four-year institutions and has shown mixed results with either students working fewer hours being more engaged (Lang, 2012) or with students working more hours being more engaged (Saenz, Hatch, Bukoski, Suyun, Lee, & Valdez, 2011; Philibert, Allen, & Elleven, 2008). Continued examination of this variable is needed, especially at community colleges since the students taking online community college classes tend to work more hours (Xu & Jaggers, 2011). A study employing a larger sample size would add to the body of knowledge.

This section drew conclusions between the empirical data and existing research. Each research question was explored. The following section details implications that can be induced from the findings and conclusions.

Implications

The findings in this study have several implications for community colleges, online learning and higher education. The first implication is that even though there were significant results indicating that students are less engaged in online courses, there is good news for online learning. The data still indicates that, overall, community college students have positive perceptions of online courses. The results of this study, coupled with the high number of online courses offered by community colleges (Cdeja, 2010), does call for taking a serious look at differences between survey items with significant differences but, at the same time, the fact that the online courses are positive is a sign that students are engaged in online education.

Another implication relates to the retention of students. Studies have linked online community college classes to low of student engagement and higher dropout rates (Xu & Jaggers, 2010: Jaggers & Xu, 2013). However, the results of this study suggest that community college students feel engaged in their online courses.

The first research question yielded nine areas where students felt more engaged in traditional courses than in online courses. Professors should consider these items as the design and deliver online content. Some points to consider are finding ways to make discussion boards more interactive, finding ways to make the course more relevant to and interesting for students, easing student fears and concerns about doing well and finding ways to allow the students to interact and help each other as part of the course curriculum.

Recommendations

This section makes recommendations based on the results and conclusions drawn from this study. The recommendations are presented in no particular order of importance. The recommendations have been made out of the hope that future research in these areas will continue.

The first recommendation is the call for the current study to be repeated with a larger sample size. The restrictive nature of the sample in this study makes it very difficult to generalize the findings. This larger sample size needs be drawn from community colleges since there has been so little research conducted at these institutions.

The second recommendation arises from findings that suggest that students are less engaged in online classes than in traditional courses. Since online offerings at community colleges continue to increase, research needs to be conducted exploring how online course design can impact the course engagement levels of students. Developing online courses that keep students engaged could have a huge impact on student retention, especially in light of the higher drop-out rates for community college students enrolled in online courses. Additionally, developing online courses that encourage student engagement also relates to the nature of higher education. If the goal of higher education is to create an informed citizenry capable of critical thinking and decision-making then we need students to be engaged.

The third recommendation is for research of this nature to be conducted at a variety of types of community colleges. This study drew its sample from two rural community colleges. It would be beneficial to see if the results can be replicated across other rural two-year institutions and to determine if similar results are found for community colleges in urban settings.

A final recommendation relates to investigating student engagement in general. Community college students and their engagement need to be studied in greater detail than they

have been to date. Since community college student enrollment continues to outpace the enrollment at 4-year institutions, more research focusing on the unique needs and characteristics of nontraditional students needs to become a priority. Simply applying the results of studies focusing on students enrolled in 4-year institutions is not enough and fails to take into consideration the differences between community college students and students in 4-year colleges.

Final Reflection

In conclusion, this study explored the differences between course engagement levels of community college students enrolled in online and traditional courses. Students enrolled in traditional courses were found to be significantly more engaged than those enrolled in online courses. No differences were found for course engagement across course discipline, age, gender or hours worked weekly. The small sample size used in this study is one reason additional research needs to take place. Additional research to explore the relationship between course design and course engagement needs to occur.

Community college students need to be recognized as a group with needs that are different than traditional students and this recognition needs to drive additional research into student engagement. Research in the area of student engagement has been focused on four-year institutions, with 92 percent of studies conducted at four-year colleges (Marti, 2010). Community colleges enroll nearly half of all students (Snyder & Dillow, 2012) yet research involving two-year institutions is underrepresented.

Student engagement is the best predictor of student retention (Tinto, 2000) and research shows that students make large gains in critical thinking skills from their freshman to senior years of college (Chartrand, Ishikawa & Flander, 2013). Although 70 percent of adults with high school diplomas are deficient in the kinds of critical thinking skills needed to adapt to the ever-

changing landscape of the work world, only nine percent of college graduates fail to demonstrate these skill (Chartrand, Ishikawa & Flander, 2013). Ensuring community college students are engaged matters because community colleges enroll 45 percent of all students and nearly two-thirds of all nontraditional students (Snyder & Dillow, 2012). Exploring the engagement of community college students in online course is especially important because two-year institutions show the greatest growth in online offerings with community college students comprising more than fifty percent of all online students. These students will be entering the workforce and will need to be able to make critical decisions quickly and be able to adapt to new situations. Student engagement in online courses is a key part of developing individuals capable of thinking critically and responding well to the changes that will take place in the coming decades.

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APPENDICES

Appendix A

From: "Handelsman, Mitch" <Mitchell.Handelsman@ucdenver.edu>

Date: May 31, 2012, 4:41:15 PM CDT

To: "Hamby, Melissa" <melissa-hamby@utulsa.edu>

Subject: RE: Student Course Engagement Questionnaire

Dear Melissa—

Thanks for your email. Attached is a copy of the SCEQ and information about scoring. You have our permission to use the scale. However, my understanding is that you may need permission from the publisher. The notice on the web page where our article appears says this:

"Copyright of Journal of Educational Research is the property of Heldref Publications and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use."

I don't know if using the scale is "individual use," or if you need Heldref's (www.heldref.org) permission. It hasn't been a problem in the past.

I wish you good luck in your research!

Cheers,

--mitch

Appendix B

STUDENT ENGAGEMENT QUESTIONNAIRE

To what extent do the following behaviors, thoughts, and feelings describe *you, in this course?* Please rate each of them on the following scale:

5 = very characteristic of me
4 = characteristic of me
3 = moderately characteristic of me
2 = not really characteristic of me
1 = not at all characteristic of me

1. _____ Raising my hand in class
2. _____ Participating actively in small group discussions
3. _____ Asking questions when I don't understand the instructor
4. _____ Doing all the homework problems
5. _____ Coming to class every day
6. _____ Going to the professor's office hours to review assignments or tests, or to ask questions
7. _____ Thinking about the course between class meetings
8. _____ Finding ways to make the course interesting to me
9. _____ Taking good notes in class
10. _____ Looking over class notes between classes to make sure I understand the material
11. _____ Really desiring to learn the material
12. _____ Being confident that I can learn and do well in the class
13. _____ Putting forth effort
14. _____ Being organized
15. _____ Getting a good grade
16. _____ Doing well on the tests
17. _____ Staying up on the readings

18. _____ Having fun in class

19. _____ Helping fellow students

20. _____ Making sure to study on a regular basis

21. _____ Finding ways to make the course material relevant to my life

22. _____ Applying course material to my life

23. _____ Listening carefully in class

[Source: Handelsman, M. M., Briggs, W. L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *Journal of Educational Research, 98,* 184-191.]

Appendix C

ONLINE STUDENT ENGAGEMENT QUESTIONNAIRE

To what extent do the following behaviors, thoughts, and feelings describe *you, in this course?* Please rate each of them on the following scale:

5 = very characteristic of me
4 = characteristic of me
3 = moderately characteristic of me
2 = not really characteristic of me
1 = not at all characteristic of me

1. _____ Participating in class discussion on the discussion board
2. _____ Being active in small group discussions on the discussion board.
3. _____ Emailing the instructor or posting questions on the discussion board when I don't understand the instructor
4. _____ Doing all the homework
5. _____ Logging in to class the required number of times weekly
6. _____ Emailing the professor to review assignments or tests or to ask questions
7. _____ Thinking about the course between class log-ins
8. _____ Finding ways to make the course interesting to me
9. _____ Taking good notes while logged in, reading, or while watching PowerPoint presentations
10. _____ Looking over my notes between log-ins to make sure I understand the material
11. _____ Really wanting to learn the material
12. _____ Being confident that I can learn and do well in the class
13. _____ Putting forth effort
14. _____ Being organized

15. _____ Getting a good grade

16. _____ Doing well on the tests and assignments

17. _____ Staying up on the readings

18. _____ Having fun in class discussion boards or emails

19. _____ Helping fellow students

20. _____ Making sure to study on a regular basis

21. _____ Finding ways to make the course material relevant to my life

22. _____ Applying course material to my life

23. _____ Carefully taking notes during class

[Adapted from Handelsman, M. M., Briggs, W. L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *Journal of Educational Research, 98,* 184-191.]

Appendix D

Online Survey

Q1

Which of the following courses are you enrolled in this semester (choose all that apply)?

- ☐ English Composition II (ENGL 1213)
- ☐ Speech Communication I (SPCH 1113)
- ☐ History Civil War to Present Era (HIST 1493)
- ☐ American Federal Government (POLS 1113)
- ☐ General Biology for Non-Majors (BIOL 1114)
- ☐ Introduction to Philosophy (PHIL 1113)
- ☐ College Algebra (MATH 1513)
- ☐ Introduction to Psychology (PSYC 1113)
- ☐ Computer Concepts and Applications (CSCI 1203)

Q2

Of courses are you enrolled in this semester, which ones are you taking online (choose all that apply)?

- ☐ English Composition II (ENGL 1213)
- ☐ Speech Communication I (SPCH 1113)
- ☐ History Civil War to Present Era (HIST 1493)
- ☐ American Federal Government (POLS 1113)
- ☐ General Biology for Non-Majors (BIOL 1114)
- ☐ Introduction to Philosophy (PHIL 1113)
- ☐ College Algebra (MATH 1513)
- ☐ Introduction to Psychology (PSYC 1113)
- ☐ Computer Concepts and Applications (CSCI 1203)

Q3

Please indicate your age

- 18-25
- 26-35
- 36-45
- 46-55
- 56 and older

Q4

Please indicate your gender

- Male
- Female

Q5

Please indicate how many hours you work each week

- I do not work
- I work a part-time job
- I work a full time job

Q6

-

If you are taking an online course or online courses this semester, please answer the following questions about your online course. If you are not taking courses online, please skip this question and proceed to #7.

	Not at all like me	Not like me	Neutral	Like me	Very like me
Participating in class discussions on the discussion board.	O	O	O	O	O
Being active in small group discussions on the discussion board	O	O	O	O	O
Emailing the instructor or posting questions on the discussion board when I don't understand the instructor.	O	O	O	O	O
Doing all the homework.	O	O	O	O	O
Logging in to the class the required number of times weekly.	O	O	O	O	O
Emailing the professor to review assignments or tests or to ask questions.	O	O	O	O	O
Thinking about the course between class log-ins.	O	O	O	O	O
Finding ways to make the course interesting to me.	O	O	O	O	O
Taking good notes while logged in, reading, or while watching PowerPoint presentations.	O	O	O	O	O
Looking over my notes between log-ins to make sure I understand the materials.	O	O	O	O	O
Really wanting to learn the material.	O	O	O	O	O
Being confident that I can learn and do well in the class.	O	O	O	O	O
Putting forth effort.	O	O	O	O	O
Being organized.	O	O	O	O	O
Getting a good grade.	O	O	O	O	O
Doing well on tests and assignments.	O	O	O	O	O
Staying up on the readings.	O	O	O	O	O
Having fun in class discussion boards or emails.	O	O	O	O	O
Helping fellow students.	O	O	O	O	O
Making sure to study on a regular basis.	O	O	O	O	O
Finding ways to make the course material relevant to my life.	O	O	O	O	O
Applying the course material to my life.	O	O	O	O	O
Carefully taking notes during class.	O	O	O	O	O

Q7

-

If you are taking a classroom-based course or courses this semester, please answer the following questions about your traditional course. If you are not taking a traditional course, please skip this question.

	Not at all like me	Not like me	Neutral	Like me	Very like me
Raising my hand in class.	○	○	○	○	○
Participating actively in small group discussions.	○	○	○	○	○
Asking questions when I don't understand the instructor.	○	○	○	○	○
Doing all the homework.	○	○	○	○	○
Coming to class every day.	○	○	○	○	○
Going to the professor's office hours to review assignments or tests or to ask questions.	○	○	○	○	○
Thinking about the course between class meetings.	○	○	○	○	○
Finding ways to make the course interesting to me.	○	○	○	○	○
Taking good notes in the class.	○	○	○	○	○
Looking over my notes between classes to make sure I understand the materials.	○	○	○	○	○
Really wanting to learn the material.	○	○	○	○	○
Being confident that I can learn and do well in the class.	○	○	○	○	○
Putting forth effort.	○	○	○	○	○
Being organized.	○	○	○	○	○
Getting a good grade.	○	○	○	○	○
Doing well on tests and assignments.	○	○	○	○	○
Staying up on the readings.	○	○	○	○	○
Having fun in class.	○	○	○	○	○
Helping fellow students.	○	○	○	○	○
Making sure to study on a regular basis.	○	○	○	○	○
Finding ways to make the course material relevant to my life.	○	○	○	○	○
Applying the course material to my life.	○	○	○	○	○
Listening carefully in class.	○	○	○	○	○

Appendix E

NORTHERN Oklahoma College
TONKAWA | ENID | STILLWATER
Office of Academic Affairs

1220 E. Grand
PO Box 310
Tonkawa, OK 74653-0310
Phone: 580.628.6210
Fax: 580.628.6209
www.noc.edu

April 8, 2015

Ms. Melissa Hamby
1719 south Saint Louis Avenue
Tulsa, OK 74120

Dear Ms. Hamby:

Thank you for submitting your NOC IRB request dated 4-6-2015 requesting approval to conduct research related to "community college perceptions of course engagement levels to determine if these differ between students enrolled in traditional delivery courses and those enrolled in online courses." Because this research involves using anonymous surveys and research instruments and normal educational practices, it qualifies for exempt status, and we approve your proposal.

As your research includes emailing NOC students requesting their participation in your survey, you may request email addresses as described in your IRB proposal from Dr. Rick Edgington, Vice President for Enrollment Management, at rick.edgington@noc.edu. He is aware of your research proposal and has indicated that since email addresses are directory information, he could accommodate your request. Good luck with your research.

Sincerely,

Judy R. Colwell

Judy R. Colwell, Ed.D., CPA
Vice President for Academic Affairs

Life changing.

Appendix F

SEMINOLE State COLLEGE
P.O. BOX 351 • 2701 BOREN BOULEVARD • SEMINOLE, OK 74818-0351 • PHONE: (405) 382-9950

March 31, 2015

Dear OSU IRB:

Melissa Hamby has contacted Seminole State College in Seminole, Oklahoma requesting our assistance with her dissertation. Specifically, she has provided us with a prospectus about her research, a copy of the survey instrument, as well as additional information about the research problem, research questions, and data analyses. She has our permission and support in surveying a cohort of our students in this regard.

Please contact me if I can answer any questions or be of assistance.

Sincerely,

Mark Ames, Ed.D.
Vice President for Student Affairs
m.ames@sscok.edu
405-382-9216

Appendix G

Oklahoma State University Institutional Review Board

Date:	Thursday, April 02, 2015	**Protocol Expires: 3/1/2018**
IRB Application No:	ED1515	
Proposal Title:	Student Perceptions of Course Engagement: A Comparison of Online and Traditional Courses	
Reviewed and Processed as:	Exempt **Modification**	

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Melissa Hamby
1719 S St Louis Ave
Tulsa, OK 74120

Jesse P. Mendez
312 Willard
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The following modifications are approved: 1) change in research site to generic two year institutions, 2) Providing approval documents for NOC and Seminole State, 3) changes in the survey due to class title changing at different institutions, and 4) reduction to 2 follow up email.

Signature :

Hugh Crethar, Chair, Institutional Review Board

Thursday, April 02, 2015
Date

INFORMED CONSENT

Dissertation Title: Student Perceptions of Course Engagement: Online and Traditional Course Differences.

Investigator: Melissa Hamby, Doctoral Student, Oklahoma State University

Purpose: The purpose of this research is to discover if student perceptions of course level engagement differs between online and traditional modes of delivery. You must be 18 years or older to participate.

What to expect: Participation in this study will involve complete an online survey made up of a series of demographic questions (such as age, courses taken) and 23 questions about your perceptions of your engagement in traditional and online courses. You may skip any questions that you do not wish to answer. The survey should take about 10 minutes to complete. The purpose of the survey information is to enable the researcher to learn about student perceptions of their course-level engagement. No identifying names will be used or associated with the reported survey data or during analysis.

Risks of Participation: There are no known risks associated with this project.

Benefits of Participation: There are no direct benefits for the participants. The information gathered in this study may help institutions develop online or traditional courses that allow for students to be more engaged in the course.

Confidentiality: The records of this study will be kept confidential. Surveys and record forms will use identification numbers rather than names. All research records will be stored securely and only researchers will have access to the records.

Your Rights: Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this project at any time, without penalty.

Compensation: There is no compensation provided for participating in this study.

Contact: You may contact any of the researchers at the following addresses and phone number, should you desire to discuss your participation in the study and/or request information about the results of the study: Melissa Hamby, Doctoral Student, melissa.hamby@ okstate.edu, 918-631-5079, or Dr. Jesse Mendez, Doctoral Advisor, Willard Hall, Dept. of Educational Leadership and Policy Sudies, Oklahoma State University, Stillwater, OK, 74078, 405-744-3982. If you have questions about your rights as a research volunteer, you may contact Dr. Hugh Crethar, IRB Chair at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.
If you have any questions regarding the project's procedures at the OCCC campus, please contact Dr. Janet C. Perry, IRB Chair at 405 682-1611 or email jcperry@occc.edu.

If you choose to participate: By beginning the survey, you acknowledge that you have read this information, are age 18 or older, and agree to participate in this research with the knowledge that you are free to withdraw your participation at any time.

Initial Email

Initial email Invitation

Date:

I am writing to ask for your participation in a survey I am conducting with students enrolled in online or classroom versions of general education courses at Oklahoma City Community College. I am asking students like you to reflect on how you learn in online or classroom settings.

Your responses to this are very important. Responding will help in the understanding of the factors that make online courses and traditional classroom-based course worthwhile for students as well as help researchers better understand how different kinds of courses help students learn. As part of this survey, you will also be asked questions about your age, classes you are taking, and gender.

This is a short survey and it should take you no more than 10 minutes to complete. Please click on the link below to go to the survey or copy and paste the link into your browser.

Survey Link: https://okstatecoe.qualtrics.com/SE/?SID=SV_4ORHf9wHSIKQfBP

Your participation in this survey is completely voluntary and all of your responses will be kept confidential. There will no way to associate any of your responses with you in any of the reports of this data. If you have any questions or comments, please contact me at melissa.hamby@okstate.edu or 918-631-5079.

I appreciate your time and consideration in completing the survey questions. Thank you so much for your participation! Your responses truly help advance how courses are delivered.

Sincerely,

Melissa Hamby
Doctoral Student
Oklahoma State University

Follow Up Email #1

Follow up email 1

Date:

I recently sent you an email asking for your participation in a survey about online and classroom-based courses at Oklahoma City Community College. Your responses to this survey will help in the understanding of the factors that make online courses and traditional classroom-based course worthwhile for students as well as help researchers better understand how different kinds of courses help students learn.

This short survey should take you no more than 10 minutes to complete. If you have already participated in the survey, thank your for doing so. If you have not participated, I encourage you to do so.

Please click on the link below to go to the survey or copy and paste the link into your browser.

Survey Link: https://okstatecoe.qualtrics.com/SE/?SID=SV_4ORHf9wHSIKQfBP

Your response does matter. Your responses truly help advance how courses are delivered. Thank you for completing the survey!

Sincerely,

Melissa Hamby
Doctoral Student
Oklahoma State University

VITA

Melissa Rene Hamby

Candidate for the Degree of

Doctor of Education

Thesis: STUDENT PERCEPTIONS OF COURSE ENGAGEMENT: A COMPARISON OF ONLINE AND TRADITIONAL COURSES

Major Field: Educational Leadership and Policy Studies

Biographical:

Education:

Completed the requirements for the Doctor of Education in Educational Leadership and Policy Studies at Oklahoma State University, Stillwater, Oklahoma in July, 2015.

Completed the requirements for the Master of Arts in Industrial/Organizational Psychology at the University of Tulsa, Tulsa, Oklahoma in 2005.

Completed the requirements for the Master of Science in Gifted and Talented Education at Arkansas Tech University, Russellville, Arkansas in 1999.

Completed the requirements for the Bachelor of Science in Elementary Education at Oklahoma State University, Stillwater, Oklahoma in 1993.

Experience:

Science Teacher, University School at the University of Tulsa, 2001-present

Adjunct Instructor, College of Education, the University of Tulsa, 2008, 2010, 2014, 2015

Teacher, Fort Smith Public Schools, Fort Smith, Arkansas, 1997-2000

Teacher, Wichita Falls Independent School District, Wichita Falls, Texas, 1993-1997

Professional Memberships:
Oklahoma Association for the Gifted, Creative and Talented
National Association of Gifted Children
National Science Teachers Association